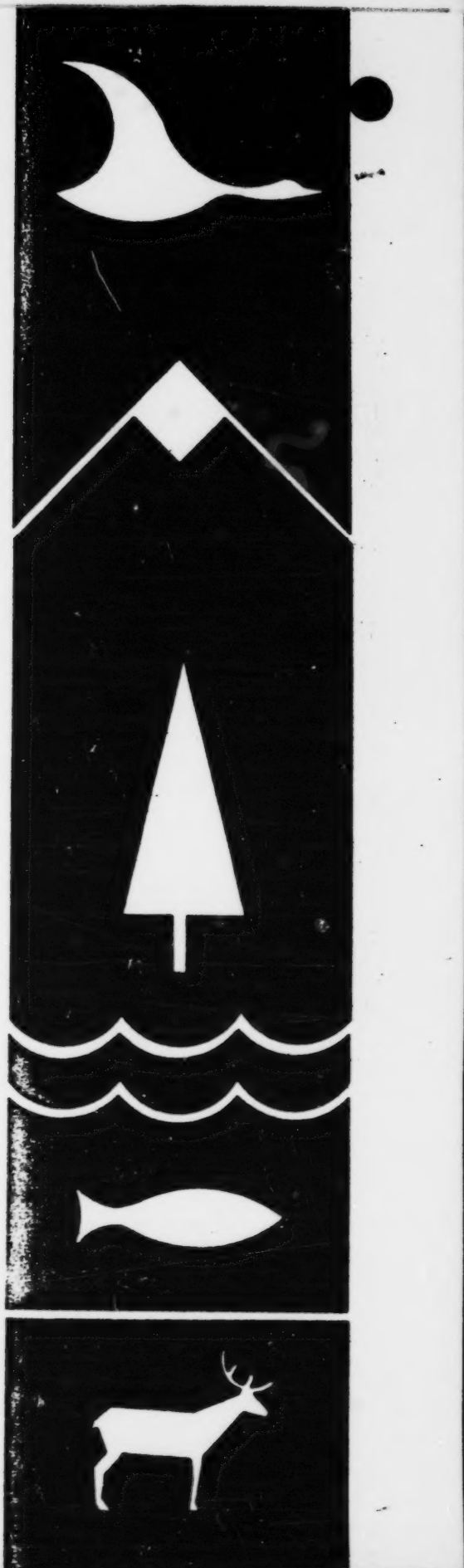
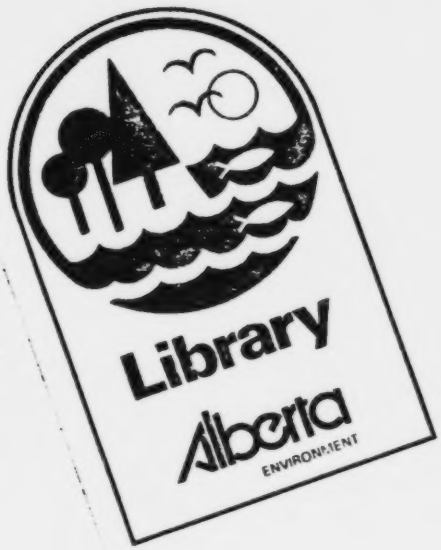
Alberta. Environmental Research Trust. Annual Report.

ANNUAL REPORT

For the Year 1979

alberta environmental research trust





Providing Funds For Environmental Research

Alberta Department of the Environment
Library

ANNUAL REPORT
FOR
THE YEAR 1979

CONTENTS

Board of Trustees
Grants Advisory Committee 3

Chairman's Report 4

A List of Projects in Progress 5

A List of Projects Completed 8

Financial Statement 13

Contributions Private 18

Alberta Environmental Research Trust Act 19

Previous Members 25

John F. Russell
Secretary

Alberta Environmental Research Trust Office
14th Floor Oxbridge Place
Mail Address
P.O. Box 2830
Station "A"
Edmonton
T5J 2G5

ALBERTA ENVIRONMENTAL RESEARCH TRUST

BOARD OF TRUSTEES

Chairman
Mr. R. L. (Hank) Colborne
President,
Wetaskiwin Motors Ltd.
Wetaskiwin

Mr. D. Anderson
M.L.A.
Calgary

Mr. D. V. Currie
Mobile Augers & Research Ltd.
Geologist
Edmonton

Mr. K. Stiles
Manager
Blain, Carruthers, Starr
Calgary

Mrs. Betty Mitchell
Housewife
Edmonton

Mr. G. J. Maier
Executive Vice-President
Hudson's Bay Oil and Gas
Company Limited
Calgary

Mrs. Lynne Phillips
Teacher
Lac La Biche

Mr. Walter Solodzuk, P.Eng.
Deputy Minister
Alberta Environment

GRANTS ADVISORY COMMITTEE

Chairman
Dr. A. Jones
University of Alberta
Medicine

Prof. D. M. Taylor
University of Calgary
Architecture

Dr. W. R. MacDonald
Dept. of the Environment
Chemistry

Dr. R. A. Hursey
Dept. of the Environment
Terrestrial

Dr. W. A. Charnetski
Canada Agriculture
Toxicology

Mr. P. Boothroyd
Consultant
Social Sciences

Dr. B. R. Hammond
Dept. of the Environment
Pollution Biology

Dr. N. M. Krawetz
Dept. of the Environment
Human Systems

Mr. H. V. Page, P. Eng.
Alberta Chamber of Resources
Environmental Engineering

ALBERTA ENVIRONMENTAL RESEARCH TRUST

CREATED BY LEGISLATIVE ENACTMENT APRIL 16, 1971

March 5, 1980

The Alberta Environmental Research Trust was created to provide a funding mechanism for research leading to improvement in environmental quality in our Province to the benefit of all.

As Chairman of the Board of Trustees, it is my duty and pleasure to report on the progress of the Trust for the past year.

During the last 12 month period, 9 Research projects were completed representing $168,000.00 with an additional 14 projects initiated amounting to $140,760.00. This total of $308,000.00 in Grant Expenditures represents a significant contribution to research that might never have been done without the assistance of the Trust.

Total Grant Expenditures since inception of A.E.R.T. now total $1,983,877.00 covering 105 specific research projects at an average cost of $19,000.00.

The activities of the Trust, in joint funding ventures with private industry is rapidly accelerating and has been recognized by the contribution of $160,000.00 during 1979. We believe this to be indicative of the confidence that has been placed in the Trust and our Grants Advisory Committee, which has prompted our request to the Minister for additional funding in order to assist in assuming a larger role in the environmental community.

On behalf of the Board of Trustees, I wish to express our sincere appreciation to retiring members, Mrs. Lynne Phillips of Lac La Biche and M.L.A. Fred Bradley of Blairmore, and to welcome the appointment of Mr. Arthur Avery, our newest member from Fort McMurray.

I wish also to acknowledge the excellent support and constructive suggestions of the chairman of our Grants Advisory Committee, Dr. Adrian Jones, and the members of the Grants Advisory Committee whose participation is vital to the success of the Trust, and to thank our secretary, Mr. John Russell, who so capably handles the daily administration of the Trust.

Respectfully submitted,

R. L. Colborne

PROJECTS IN PROGRESS

Title: The Persistence in the Alberta Environment of Carcinogens Derived from Used Lubricating Oils

Grantee: Kenneth E. Sanderson
University of Calgary

Title: "Characterization of Toxic Compounds in Waste Drilling mud"

Grantee: Canadian Petroleum Association

Title: "Salt Water Spills Research in the Swan Hills"

Grantee: Canadian Petroleum Association

Title: "Heavy Metals and Other Elements in Fly Ash and their Behavior and Influence in Fly Ash Amended Soil Material"

Grantee: Dr. M. J. Dudas
Department of Soil Science
University of Alberta

Title: "Investigation of Subatmospheric In-situ Leak Detection Methods for Underground Hydrocarbon Storage Tanks"

Grantee: E. Adams
Athabasca Research Corp. Limited

Title: Biophysical Inventory of the Gregoire Lake Area Using Colored - Infrared and Hand-Sat Imagery

Grantee: Amoco Canada Petroleum Limited

Title: Converting Fly Ash into Hydraulic Cements

Grantee: R. C. Joshi
Civil Engineering
University of Calgary

Title:	Assement of Environmental impact of Agriculture ops, on rivers and river shore lands
Grantee:	Messers Taylor Manz, Lethbridge
Title:	The nature of Microbial Symbrosis in Plant/Shizosheath Association
Grantee:	LGL. Limited
Title:	Identification of Thresholds within the Relationship of Population Growth and Provision of Services
Grantee:	Mrs. A. Parkinson
Title:	Combined Wind and Water Current Effects on the Hydrodynamics of an Oil Slick on Inland Water
Grantee:	K. K. Botros University of Calgary
Title:	Use of Quatic Invertebrates for Monitoring Environmental Quality in the Peace and Athabasca Rivers
Grantee:	H. J. Boerger University of Calgary
Title:	The Effects of Insecticides on Saskatoon Pollen Germination
Grantee:	F. Kozar Grande Prairie Regional College
Title:	Optimal Energy Effectiveness Study of a Means to Establish Preferred Conditions for Human Work and Recreation
Grantee:	T. M. Nelson University of Alberta
Title:	Environmental Change in the Canadian High Arctic
Grantee:	J. England University of Alberta

Title: The Plant Communities of Northern Alberta a Classification

Grantee: G. H. LaRoi
University of Alberta

Title: Terrestrial Ecology of the Clifford E. Lee
Sanctuary Vegetation and Birds

Grantee: R. B. Hodgetts
University of Alberta

Title: Removal of Organic Pollutants from
Aquatic Environments by Bacterial Activity

Grantee: J. W. Costerton
University of Calgary

Title: Low Levels of Ethylene as a Phytotoxicant

Grantee: A. M. Reid
University of Calgary

Title: Background Radiation Radio activity Level in Drinking Water
and Their Correlation to the Incidence of Cancer

Grantee: J. W. Tse

PROJECT COMPLETED

Title:	A study of environmental problems arising from oil spillage.
Grantee:	University of Calgary, Mohtadi
Title:	Preparation and evaluation of peat moss blocks and slabs for combating oil pollution
Grantee:	Research Council, Mitchell
Title:	Heavy Metals in selected crops and soils of Alberta
Grantee:	University of Alberta, Pawluk & Dudas
Title:	A study of the fate of emitted sulphur dioxide
Grantee:	University of Alberta, Bentley - Nyborg
Title:	Computer techniques for predicting various types of effluents on the environment
Grantee:	University of Calgary' Aziz
Title:	Selection and survey of potential ecological reserves
Grantee:	University of Alberta, Fuller
Title:	Task forces on urban environment
Grantee:	Edmonton Social Planning Council
Title:	Activity and movement of northern pike
Grantee:	University of Alberta, Mackay
Title:	The spatial and economic impact of recreational expenditures and sales in the Pigeon Lake area of Alberta
Grantee:	University of Alberta, Ironside
Title:	Occupational and community risk of death from carbon monoxide in Calgary
Grantee:	University of Calgary, Hodgson
Title:	Microbial and biochemical studies of Edmonton industrial lagoons.
Grantee:	City of Edmonton
Title:	A study of the environment of the Whitecourt area of Alberta with particular regard to the effects of sulphur compounds
Grantee:	Whitecourt Environmental Study Group
Title:	Activity and movement patterns of native fish
Grantee:	University of Alberta, Mackay
Title:	Use of field techniques in high school environmental studies
Grantee:	A.R.L. Fenna
Title:	The urban heat island of Calgary
Grantee:	University of Calgary, Nkemdirim

Title: Reclamation and recycling for solid wastes

Grantee: University of Alberta, Sprague

Title: The visual element in natural park evaluation

Grantee: University of Alberta, Fuller

Title: Solid waste management in regards to recycling sawdust

Grantee: M.B.M. Research, Calgary

Title: Recycling waste lubricating oils

Grantee: Synergy West Limited, Calgary

Title: Clarification of waste water from tar sands

Grantee: Wilson Mud Service

Title: Automatic exhaust emission control under low ambient temperature conditions

Grantee: University of Calgary, Karim

Title: Criteria and priorities for funding research

Grantee: Western Ecological Surveys

Title: Social implications of multiple family environments

Grantee: Urban Research, Edmonton

Title: Treatment of tar sands tailings with fly ash

Grantee: University of Saskatchewan Bakshi

Title: Odor control in pig wastes

Grantee: University of Alberta, McQuitty

Title: Reclamation techniques on crude oil spills

Grantee: University of Alberta, Toogood

Title: Carcinogenic hydrocarbons as pollutants in the atmosphere of Calgary

Grantee: University of Calgary, Hodgson

Title: Women and the environment

Grantee: Mrs. Abercombie, Edmonton

Title: Recycling waste lubricating oils, Part II

Grantee: Synergy West Limited, Calgary

Title: Effects of the Shell Waterton Gas Plant on soils, water and rainfall

Grantee: McKinnon, Allen and Associates

Title: Environment and society in Alberta

Grantee: University of Alberta, Stehr

Title: Wildlife production in Alberta

Grantee: Synergy West Limited, Calgary

Title: "Development of and Environmental Research Inventory of Projects and Expertise in Alberta"

Grantee: Schick Information Systems Limited, Edmonton

Title:	"Anhydrous Recovery of Bitumen in a Fluidized Bed Reactor"
Grantee:	University of Calgary, Bennion
Title:	"Epiphytic Lichens as Indicators of Air Pollution"
Grantee:	University of Calgary, Bird-Case
Title:	"Utilization of Solar Energy"
Grantee:	University of Alberta, Weichman
Title:	"To investigate Sulphur Isotope Abundances Near Gas Processing Plants"
Grantee:	University of Calgary, Krouse
Title:	"Removal of Hydrocarbons from Aqueous Waste Water from Oil Sand Recovery Operations"
Grantee:	University of Calgary, Tollefson
Title:	Selection and Survey of Potential Ecological Reserves"
Grantee:	University of Alberta, LaRoi
Title	A Study of Bacterial Adherent to Solid Surfaces in Fresh Water Environments"
Grantee:	University of Calgary, Costerton
Title:	"Influence of Parents and Media on Children's Information, Values and Behaviours toward the Environment"
Grantee:	University of Calgary, Fouts

1979

Title:	"Carcinogenic Hydrocarbons as Potential Environment Pollutants in Alberta Resource Development"
Grantee:	University of Calgary, Peake
Title:	"Control of Drift from Aerial Spraying"
Grantee:	Lakeland College Vermilion Campus, Laurin
Title:	"Field Investigations of the Dispersion of Pollution within an Area of Complex Terrain"
Grantee:	University of Calgary, Rowe
Title:	Biodegration of Environmental Pollutants"
Grantee:	University of Calgary, Kapoor
Title:	Problems and Potential for Spray Irrigation of Sewage in Rural Albertan Communities"
Grantee:	University of Calgary, Tester
Title:	Thermal Pollution and Variation in Species Composition in the Sheep River
Grantee:	R. R. Aderson Calgary
Title:	"Bottom Fly Ash in Place of Aggregates in Ashvault Stabiiized Soils"
Grantee:	Consolidated Concrete Limited

Title: "Hydrology and Water Quality Project for Clifford E. Lee Nature Sanctuary"

Grantee: University of Alberta, Hodgetts

Title: Ipiatik Gas Field Facilities, Environmental Location and Design Study

Grantee: Amoco Canada Petroleum Ltd.

ALBERTA ENVIRONMENTAL RESEARCH TRUST
FINANCIAL STATEMENTS
DECEMBER 31, 1979

Auditor's Report
Balance Sheet
Statement of Revenue, Expenditure and Unexpended Funds
Notes to the Financial Statements

LEGISLATIVE ASSEMBLY
ALBERTA

OFFICE OF THE PROVINCIAL AUDITOR

AUDITOR'S REPORT

Edmonton, Alberta
January 23, 1980

To the Board of Trustees of the
Alberta Environmental Research Trust

I have examined the balance sheet of the Alberta Environmental Research Trust as at December 31, 1979 and the statement of revenue, expenditure and unexpended funds for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Trust as at December 31, 1979 and the results of its operations for the year then ended in accordance with generally accepted accounting principles applied, after giving retroactive effect to the change in accounting for committed grants referred to in Note 2 to the financial statements, on a basis consistent with that of the preceding year.

C.A.
Auditor General

Statement A

ALBERTA ENVIRONMENTAL RESEARCH TRUST
BALANCE SHEET
AS AT DECEMBER 31, 1979

ASSETS

	1979	1978
Current:		
Cash	$ 7,695	$ 6,026
Deposits in trust with the Province of Alberta	265,269	238,502
Travel advance to employee	500	—
Prepaid insurance	176	176
	$ 273,640	$ 244,704

LIABILITIES

Current:		
Research grants payable (Note 2)	$ 9,352	$ 5,500
Honoraria payable	2,000	—
Legal fees payable (Note 5)	1,099	—
Unexpended funds, Statement B	261,189	239,204
	$ 273,640	$ 244,704

The accompanying notes are part of these financial statements.

ALBERTA ENVIRONMENTAL RESEARCH TRUST
STATEMENT OF REVENUE, EXPENDITURE AND UNEXPENDED FUNDS
FOR THE YEAR ENDED DECEMBER 31, 1979

REVENUE

	1979	1978
Grants and donations:		
Province of Alberta	$ 241,000	$ 235,000
Private contributions	156,078	96,100
	397,078	331,100
Interest income	25,099	22,942
	422,177	354,042

EXPENDITURE

Research grants	356,703	296,280
Salaries and employee benefits	31,515	30,835
Travel and entertainment	5,324	3,286
Printing and office supplies	3,171	8,053
Honoraria	2,000	4,322
Legal fees (Note 5)	1,099	–
Miscellaneous	380	274
	400,192	343,050
Excess of revenue over expenditure	21,985	10,992
Unexpended funds at beginning of year	239,204	228,212
Unexpended funds at end of year	$ 261,189	$ 239,204

ALBERTA ENVIRONMENTAL RESEARCH TRUST
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 1979

Note 1 Authority

The Alberta Environmental Research Trust operates under the authority of The Alberta Environmental Research Trust Act, Chapter 31, Statutes of Alberta 1971, as amended.

Note 2 Change in Accounting Policy

Grants payable shown on the balance sheet at $9,352 comprise only those grants actually payable at December 31, 1979. In previous years grants committed but not payable were also included. As a result of this change the previously reported unexpended funds at December 31, 1978 of $94,313 has been restated to show a retroactive increase of $144,891. If the change had not been made the excess of expenditure over revenue would have been $71,170.

Note 3 Administration Costs

Equipment, furniture and certain administrative costs are provided at no charge by the Province of Alberta and, accordingly, are not reflected in these financial statements.

Note 4 Commitments

In addition to the total expenditure shown on Statement B, the Trust had outstanding commitments as at December 31, 1979 totalling $238,046 (1978: $144,891) for approved projects.

Note 5 Contingent Liability

Legal action is at present being taken against the Trust by an advertising agency claiming a retainer fee. The total amount involved excluding the Trust's legal fees is approximately $4,000. No provision has been made in these financial statements for this amount.

Note 6 Statement of Changes in Financial Position

A statement of changes in financial position has not been provided as disclosure in these financial statements is considered to be adequate.

Note 7 Approval of Financial Statements

These financial statements were approved by management on January 23, 1980.

CONTRIBUTIONS PRIVATE

Canadian Petroleum Association
Consolidated Concrete
Amoco Canada Petroleum Company Ltd.
MacCosham Group

TOTAL	$ 156,078.00

GOVERNMENT OF THE PROVINCE OF ALBERTA

THE ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT

being chapter 31 of the Statutes of Alberta, 1971
with amendments up to an including November 4, 1976

OFFICE CONSOLIDATION

NOTE

All persons making use of this consolidation are reminded that it has no legislative sanction; that the amendments have been embodied for convenience of reference only, and that the original Acts should be consulted for all purposes of interpreting and applying the law.

REGULATIONS

Nil

BILL 5

1971

CHAPTER 31

THE ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT

(Assented to April 16, 1971)

HER MAJESTY, by and with the advice and consent of the Legislative Assembly of Alberta, enacts as follows:

Definitions

1. In this Act,

(a) "Deputy Minister" means the Deputy Minister of the Environment;

(b) "property" means real and personal property, including contractual benefits, patent rights, money, rights in futuro and choses in action generally;

(c) "Trust" means the Alberta Environmental Research Trust incorporated by this Act.

[1971, c. 31, s. 1]

Incorporation

2. There is hereby established a corporation with the name of the Alberta Environmental Research Trust consisting of the trustees appointed by or pursuant to section 5. [1971, c. 31, s. 2: 1975 (2), c. 53, s. 2]

Objects

3. The objects of the Trust are

(a) to seek and receive property by gift, bequest, devise, transfer or otherwise, and

(b) subject to any prior trust conditions imposed upon the use of the property, or the income thereof, or any of it, to hold, use and administer it for the purpose of provincial expansion of applied and fundamental research relative to environmental improvement. [1971, c. 31, s. 3]

Duties and powers

4. The Trust

(a) shall apply its property or expend the income therefrom for such particular purposes, including trust conditions imposed, that might not otherwise be readily met out of public funds;

(b) shall invest its funds in securities authorized by law for investment of trust funds or as may be directed by the donor:

(c) may enter into contracts and do all other things which may be necessary, desirable or expedient to effect its objects;

(d) shall endeavour, to the extent that it considers it reasonably feasible to do so, to apportion grants of its funds for research in each year equally between persons or bodies that are supported entirely or mainly by public moneys and those that are not.

[1971, c. 31, s. 4; 1972, c. 7, s. 2]

Board of trustees

5. (1) There shall be a board of trustees for the Trust consisting of the Deputy Minister and seven other persons appointed by the Lieutenant Governor in Council.

(1.1) The term of office of a trustee appointed by the Lieutenant Governor in Council shall be three years from the date of his appointment unless otherwise specified by the order making the appointment.

(2) The board of trustees shall elect a chairman from among its members by the affirmative vote of a majority of the trustees then holding office.

(2.1) The board may appoint such advisors as it considers necessary.

(2.2) The Minister of the Environment may provide such employees as may be necessary to carry out secretarial, clerical and accounting duties and other work required by the board.

(3) A majority of the trustees holding office constitutes a quorum.

(4) The trustees shall meet at least once a year on a date to be fixed by the chairman.

(5) The Minister of the Environment may authorize, fix and provide for the payment of remuneration and expenses to the trustees.

[1971, c. 31, s. 5; 1972, c. 7, s. 3; 1975 (2), c. 53, s. 3]

By-laws

6. (1) The trustees may make by-laws respecting

(a) the appointment, functions, duties and removal of all agents, officers and employees of the Trust and their remuneration,

(b) the time and place for the meetings of the trustees and the procedure to be followed at such meetings, and

(c) the general conduct of the business and affairs of the Trust.

2

(2) A by-law does not become effective

(a) unless it is passed by a majority of the trustees holding office, and

(b) until it is approved by the Minister of the Environment.

(3) A by-law signed by a majority of the trustees holding office is as valid and effective as if passed at a meeting of the trustees. [1971, c. 31, s. 6; 1972, c. 7, s. 4]

Committees

7. (1) The trustees may at any time delegate any of their powers to committees consisting of such of the trustees and of such other persons as the trustees consider advisable.

(2) Any committee so formed shall, in the exercise of the powers so delegated, conform and be subject to the directions, restrictions and by-laws, if any, that are imposed upon it by the trustees. [1971, c. 31, s. 7]

Coming into force

8. This Act comes into force on a date to be fixed by Proclamation. [*Eff. Dec. 27/71*] [1971, c. 31, s. 8]

INDEX

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT
1971 CHAPTER 31 Sec.

Act
coming into force of 8

Alberta Environmental Research Trust
see **Trust**

Annual Meeting
board of trustees ..... 5(4)

Board of trustees
delegation of powers by 7
Trust, for 5

By-laws
power to make 6

Committees
delegation of trustee's powers to 7

Definitions 1

Deputy Minister
defined ..... 1(a)

Grants
research, for ..... 4(d)

Income
property, from, expanding of ..... 4(a)

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT—Con.

Incorporation
Trust, of 2

Meeting
trustees, of ..... 5(4),6(1)(b)

Membership
board of trustees ..... 5(1)

Minister see **Deputy Minister**

Minister of the Environment
approval of by-law ..... 6(2)(b)
powers of ..... 5(2.2,5)

Objects
Trust, of 3

Property
application of ..... 4(a)
defined ..... 1(b)

Research
environmental improvement, re ..... 3(b)

Securities
investment in ..... 4(b)

Trust
defined ..... 1(c)
duties and powers of 4

Printed by the Queen's Printer for the Province of Alberta, EDMONTON

PREVIOUS MEMBERS

BOARD OF TRUSTEES

E.E. Ballantyne	Edmonton
F.D. Bradley	Blairmore
G. Conway	Edmonton
E.E. Daniel	Edmonton
Mrs. Elly De Jongh	Edmonton
H. Lembiez	Red Deer
W.J. Mooney	Calgary
W.R. Neufeld	Grande Prairie
C. Lynn Phillips	Lac La Biche
R.A. Ritter	Calgary
R. Scammel	Red Deer
A.R. Smith	Calgary

GRANTS ADVISORY COMMITTEE

D.A. Boag	Edmonton
D.A. Birdsall	Edmonton
P. Boothroyd	Edmonton
D.V. Currie	Edmonton
S. Herrero	Calgary
R. Leech	Edmonton
T.W. Manning	Edmonton
R.D. Rowe	Calgary
H.S. Sandhu	Edmonton
H.P. Sims	Edmonton
D.J. Smith	Edmonton
S.B. Smith	Edmonton

Number/
Numéro

2

erta. Environmental Research Trust. Annual Report. 1980. c.1

ANNUAL REPORT

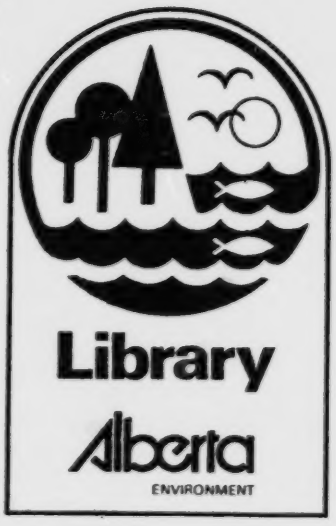
For the Year 1980

ALBERTA
ENVIRONMENTAL
RESEARCH
TRUST

1980
c.1

Alberta Department of the Environment
Library

Providing Funds For Environmental Research



ANNUAL REPORT
FOR
THE YEAR 1980

CONTENTS

Board of Trustees
Grants Advisory Committee 3

Chairman's Report 4

A List of Projects in Progress 5

A List of Projects Complete 7

Financial Statement 10

Contributions Private 16

Alberta Environmental Research Trust Act 17

Previous Members 23

John F. Russell
Secretary

Alberta Environmental Research Trust Office
7th Floor - 205 - 9th Ave. S.E.
Calgary, Alberta T2G 0R3

Phone: 261-2360

ALBERTA ENVIRONMENTAL RESEARCH TRUST

BOARD OF TRUSTEES

Chairman
Mr. R.L. (Hank) Colborne
President
Wetaskiwin Motors
Wetaskiwin

Mr. D. Anderson
M.L.A.
Calgary

Mr. D.V. Currie
Mobile Augers & Research Ltd.
Geologist
Edmonton

Mr. K. Stiles
Executive Assistant
To Chairman of the Board
Bow Valley Industries
Calgary

Mrs. Betty Mitchell
Housewife
Edmonton

Mr. G. J. Maier
Executive Vice-President
Hudson's Bay Oil and Gas
Company Limited
Calgary

Mr. A. Avery
President
G.S.A. Holdings Ltd.
Fort McMurray

Mr. Walter Solodzuk, P.Eng.
Deputy Minister
Alberta Environment

GRANTS ADVISORY COMMITTEE

Chairman
Dr. A. Jones
University of Alberta
Medicine

Prof. D.M. Taylor
University of Calgary
Architecture

Dr. W. A. Charnetski
Canada Agriculture
Toxicology

Dr. B. R. Hammond
Dept. of the Environment
Pollution Biology

Dr. N.M. Krawetz
Dept. of the Environment
Human Systems

Mr. H.V. Page, P.Eng.
Alberta Chamber of Resources
Environmental Engineering

Mr. G.D. Greene, M.A.Sc.
Esso Minerals Canada
Industrial Waste Control

ALBERTA ENVIRONMENTAL RESEARCH TRUST

CREATED BY LEGISLATIVE ENACTMENT APRIL 16, 1971

March 5, 1981

Throughout the history of human development, man has constantly searched for security against the inconsistencies of Nature. Research needed has never been more pointed than during the current decade.

While seeking to free himself from the restrictions of environmental restraints, man has now come to realize that he must at the same time live in harmony with his environment. To do so requires a great deal of extensive and carefully programmed research, as environmental protection has rapidly come to the forefront as a very exact and regimented science.

The Alberta Environmental Research Trust was formed in 1971 to provide a forum and facility in Alberta for this very difficult task. Its structure is one which incorporates all facets of the environmental problem — it includes scientists, academics, businessmen and government personnel — and its success is dependent upon this multifaceted makeup.

As Chairman of the Board of Trustees, again it is my pleasant duty to report on the progress and activities of the Trust for the past year.

During 1980 Research Project Expenditures amounted to $227,977.00 with contributions from Private Business and Industry now totalling in excess of $400,000.00 for joint funding projects in many instances.

This accelerating interest has prompted the urgent necessity of the Trust to request additional Provincial Government financial participation in order to keep par with the demands being made on the Trust for 1981.

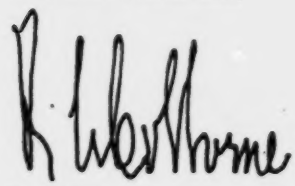
This support by Industry is indicative of the confidence the Trust has earned in administering the joint funding projects and the high regard placed in the Grants Advisory Committee whose participation is vital to our success.

On behalf of the Board, I wish to express our sincere appreciation to retiring members — Mrs. Betty Mitchell, Edmonton, Mr. G.J. Maier, Calgary, and to welcome the appointments of Dr. Adrian Jones of Edmonton, former Chairman of the Grants Advisory Committee, Mr. D. Colley of Calgary and Mr. D. Weidner of Lacombe as new members of the Trust.

As well, I sincerely welcome as the new Chairman, Mr. D.V. Currie of Edmonton who has capably provided exceptional service to the Board of Trustees and is a former member of the Grants Advisory Committee.

I also wish to thank our Secretary, Mr. John Russell, who so capably handles the daily Administration of the Trust.

Respectfully submitted,



R.L. Colborne

PROJECTS IN PROGRESS

Title:	The Persistence in the Alberta Environment of Carcinogens Derived from Used Lubricating Oils
Grantee:	Kenneth E. Sanderson University of Calgary
Title:	Converting Fly Ash into Hydraulic Cements
Grantee:	R. C. Joshi Civil Engineering University of Calgary
Title:	Assessment of Environmental Impact of Agriculture Operations on Rivers and River Shore Lands
Grantee:	Messers Taylor Manz, Lethbridge
Title:	The Nature of Microbial Symbiosis in Plant/Shizosheath Association
Grantee:	LGL. Limited Edmonton
Title:	Identification of Thresholds within the Relationship of Population Growth and Provision of Services
Grantee:	Mrs. A. Parkinson Red Deer
Title:	Combined Wind and Water Current Effects on the Hydrodynamics of an Oil Slick on Inland Water
Grantee:	K. K. Botros University of Calgary
Title:	Use of Aquatic Invertebrates for Monitoring Environmental Quality in the Peace and Athabasca Rivers
Grantee:	H. J. Boerger University of Calgary
Title:	The Effects of Insecticides on Saskatoon Pollen Germination
Grantee:	F. Kozar Grande Prairie Regional College

Title: Optimal Energy Effectiveness Study of a Means to Establish Preferred Conditions for Human Work and Recreation

Grantee: T. M. Nelson
University of Alberta

Title: Environmental Change in the Canadian High Arctic

Grantee: J. England
University of Alberta

Title: The Plant Communities of Northern Alberta, A Classification

Grantee: G. H. LaRoi
University of Alberta

Title: Removal of Organic Pollutants from Aquatic Environments by Bacterial Activity

Grantee: J. W. Costerton
University of Calgary

Title: Low Levels of Ethylene as a Phytotoxicant

Grantee: A. M. Reid
University of Calgary

Title: Background Radiation Radioactivity Level in Drinking Water and Their Correlation to the Incidence of Cancer

Grantee: J. W. Tse
Edmonton

PROJECTS COMPLETED

Title:	A study of environmental problems arising from oil spillage.
Grantee:	University of Calgary, Mohtadi
Title:	Preparation and evaluation of peat moss blocks and slabs for combating oil pollution
Grantee:	Research Council, Mitchell
Title:	Heavy Metals in selected crops and soils of Alberta
Grantee:	University of Alberta, Pawluk & Dudas
Title:	A study of the fate of emitted sulphur dioxide
Grantee:	University of Alberta, Bentley - Nyborg
Title:	Computer techniques for predicting various types of effluents on the environment
Grantee:	University of Calgary, Aziz
Title:	Selection and survey of potential ecological reserves
Grantee:	University of Alberta, Fuller
Title:	Task forces on urban environment
Grantee:	Edmonton Social Planning Council
Title:	Activity and movement of northern pike
Grantee:	University of Alberta, Mackay
Title:	The spatial and economic impact of recreational expenditures and sales in the Pigeon Lake area of Alberta
Grantee:	University of Alberta, Ironside
Title:	Occupational and community risk of death from carbon monoxide in Calgary
Grantee:	University of Calgary, Hodgson
Title:	Microbial and biochemical studies of Edmonton industrial lagoons
Grantee:	City of Edmonton
Title:	A study of the environment of the Whitecourt area of Alberta with particular regard to the effects of sulphur compounds
Grantee:	Whitecourt Environmental Study Group
Title:	Activity and movement patterns of native fish
Grantee:	University of Alberta, Mackay
Title:	Reclamation and recycling for solid wastes
Grantee:	University of Alberta, Sprague
Title:	The visual element in natural park evaluation
Grantee:	University of Alberta, Fuller
Title:	Solid waste management in regards to recycling sawdust
Grantee:	M.B.M. Research, Calgary
Title:	Recycling waste lubricating oils
Grantee:	Synergy West Limited, Calgary
Title:	Clarification of waste water from tar sands
Grantee:	Wilson Mud Service
Title:	Use of field techniques in high school environmental studies
Grantee:	A.R.L. Fenna
Title:	The urban heat island of Calgary
Grantee:	University of Calgary, Nkemdirim

Title:	Automatic exhaust emission control under low ambient temperature conditions
Grantee:	University of Calgary, Karim
Title:	Criteria and priorities for funding research
Grantee:	Western Ecological Surveys
Title:	Social implications of multiple family environments
Grantee:	Urban Research, Edmonton
Title:	Treatment of tar sands tailings with fly ash
Grantee:	University of Saskatchewan, Bakshi
Title:	Odor control in pig wastes
Grantee:	University of Alberta, McQuitty
Title:	Reclamation techniques on crude oil spills
Grantee:	University of Alberta, Toogood
Title:	Carcinogenic hydrocarbons as pollutants in the atmosphere of Calgary
Grantee:	University of Calgary, Hodgson
Title:	Women and the environment
Grantee:	Mrs. Abercombie, Edmonton
Title:	Recycling waste lubricating oils, Part II
Grantee:	Synergy West Limited, Calgary
Title:	Effects of the Shell Waterton Gas Plant on soils, water and rainfall
Grantee:	McKinnon, Allen and Associates
Title:	Environment and society in Alberta
Grantee:	University of Alberta, Stehr
Title:	Wildlife production in Alberta
Grantee:	Synergy West Limited, Calgary
Title:	Development of an Environment Research Inventory of Projects and Expertise in Alberta
Grantee:	Schick Information Systems Limited, Edmonton
Title:	Anhydrous Recovery of Bitumen in a Fluidized Bed Reactor
Grantee:	University of Calgary, Bennion
Title:	Epiphytic Lichens as Indicators of Air Pollution
Grantee:	University of Calgary, Bird-Case
Title:	Utilization of Solar Energy
Grantee:	University of Alberta, Weichman
Title:	To investigate Sulphur Isotope Abundances Near Gas Processing Plants
Grantee:	University of Calgary, Krouse
Title:	Removal of Hydrocarbons from Aqueous Waste Water from Oil Sand Recovery Operations
Grantee:	University of Calgary, Tollefson
Title:	Selection and Survey of Potential Ecological Reserves
Grantee:	University of Alberta, LaRoi
Title:	A Study of Bacterial Adherent to Solid Surfaces in Fresh Water Environments
Grantee:	University of Calgary, Costerton
Title:	Influence of Parents and Media on Children's Information, Values and Behaviours toward the Environment
Grantee:	University of Calgary, Fouts

Title:	Carcinogenic Hydrocarbons as Potential Environment Pollutants in Alberta Resource Development
Grantee:	University of Calgary, Peake
Title:	Control of Drift from Aerial Spraying
Grantee:	Lakeland College Vermilion Campus, Laurin
Title:	Field Investigations of the Dispersion of Pollution within an Area of Complex Terrain
Grantee:	University of Calgary, Rowe
Title:	Biodegration of Environmental Pollutants
Grantee:	University of Calgary, Kapoor
Title:	Problems and Potential for Spray Irrigation of Sewage in Rural Albertan Communities
Grantee:	University of Calgary, Tester
Title:	Thermal Pollution and Variation of Species Composition in the Sheep River
Grantee:	R. R. Anderson Calgary
Title:	Bottom Fly Ash in Place of Aggregates in Ashvault Stabilized Soils
Grantee:	Consolidated Concrete Limited
Title:	Hydrology and Water Quality Project for Clifford E. Lee Nature Sanctuary
Grantee:	University of Alberta, Hodgetts
Title:	Ipiatik Gas Field Facilities, Environmental Location and Design Study
Grantee:	Amoco Canada Petroleum Ltd.
Title:	Characterization of Toxic Compounds in Waste Drilling mud
Grantee:	Canadian Petroleum Association
Title:	Salt Water Spills Research in the Swan Hills
Grantee:	Canadian Petroleum Association
Title:	Heavy Metals and Other Elements in Fly Ash and Their Behaviour and Influence in Fly Ash Amended Soil Material
Grantee:	University of Alberta, Dudas
Title:	Investigation of Subatmospheric In-situ Leak Detection Methods for Underground Hydrocarbon Storage Tanks
Grantee:	E. Adams Athabasca Research Corp. Limited
Title:	Biophysical Inventory of the Gregoire Lake Area Using Colored - Infrared and Hand-Sat Imagery
Grantee:	Amoco Canada Petroleum Limited
Title:	Terrestrial Ecology of the Clifford E. Lee Sanctuary Vegetation and Birds
Grantee:	University of Alberta, Hodgetts

ALBERTA LEGISLATURE

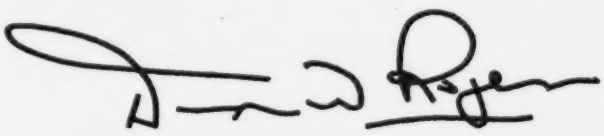
OFFICE OF THE AUDITOR GENERAL

AUDITOR'S REPORT

To the Board of Trustees of the
Alberta Environmental Research Trust

I have examined the balance sheet of the Alberta Environmental Research Trust as at December 31, 1980 and the statement of revenue, expenditure and unexpended funds for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the trust as at December 31, 1980 and the results of its operations for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.



C.A.
Auditor General

Edmonton, Alberta
January 16, 1981

ALBERTA ENVIRONMENTAL RESEARCH TRUST
FINANCIAL STATEMENTS
DECEMBER 31, 1980

Auditor's Report

Balance Sheet

Statement of Revenue, Expenditure and Unexpended Funds

Notes to the Financial Statements

OFFICE OF THE AUDITOR GENERAL

ALBERTA ENVIRONMENTAL RESEARCH TRUST
BALANCE SHEET
AS AT DECEMBER 31, 1980

ASSETS

	1980	1979
Current:		
Cash	$ 796	$ 7,695
Deposits in trust with the Province of Alberta	148,326	265,269
Travel advance to employee	500	500
Prepaid insurance	225	176
	$ 149,848	$ 273,640

LIABILITIES

Current:		
Bank overdraft	$ 4,181	$ -
Research grants payable	9,751	9,352
Honoraria payable	-	2,000
Legal fees payable	-	1,099
Unexpended funds, Statement B	135,916	261,189
	$ 149,848	$ 273,640

The accompanying notes are part of these financial statements.

OFFICE OF THE AUDITOR GENERAL

Statement B

ALBERTA ENVIRONMENTAL RESEARCH TRUST
STATEMENT OF REVENUE, EXPENDITURE AND UNEXPENDED FUNDS
FOR THE YEAR ENDED DECEMBER 31, 1980

REVENUE

	1980	1979
Grants from the Province of Alberta	$ 240,000	$ 241,000
Private donations	1,000	156,078
Interest income	28,975	25,099
	269,975	422,177

EXPENDITURE

Research grants	341,331	356,703
Salaries and employee benefits	34,970	31,515
Printing and office supplies	8,300	3,171
Travel and entertainment	5,598	5,324
Moving expenses	2,500	-
Legal and settlement expenses	1,706	1,099
Miscellaneous	843	2,380
	395,248	400,192
Excess (deficiency) of revenue over expenditure	(125,273)	21,985
Unexpended funds at beginning of year	261,189	239,204
Unexpended funds at end of year	$ 135,916	$ 261,189

ALBERTA ENVIRONMENTAL RESEARCH TRUST
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 1980

Note 1 Authority

The Alberta Environmental Research Trust operates under the authority of The Alberta Environmental Research Trust Act, Chapter 31, Statutes of Alberta 1971, as amended.

Note 2 Administration Costs

Equipment, furniture and certain administrative costs are provided at no charge by the Province of Alberta and, accordingly, are not reflected in these financial statements.

Note 3 Commitments

In addition to the total expenditure shown on Statement B, the Trust had outstanding commitments as at December 31, 1980 totalling $90,558 (1979: $238,046) for approved projects.

Note 4 Statement of Changes in Financial Position

A statement of changes in financial position has not been provided as disclosure in these financial statements is considered to be adequate.

Note 5 Approval of Financial Statements

These financial statements were approved by management on January 16, 1981.

CONTRIBUTIONS PRIVATE

Genstar	$ 1,000.00

GOVERNMENT OF THE PROVINCE OF ALBERTA

THE ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT

being chapter 31 of the Statutes of Alberta, 1971
with ammendments up to and including November 4, 1976

OFFICE CONSOLIDATION

NOTE

All persons making use of this consolidation are reminded that it has no legislative sanction; that the amendments have been embodied for convenience of reference only, and that the original acts should be consulted for all purposes of interpreting and applying the law.

REGULATIONS

Nil

BILL 5

1971

CHAPTER 31

THE ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT

(Assented to April 16, 1971)

HER MAJESTY, by and with the advice and consent of the Legislative Assembly of Alberta, enacts as follows:

Definitions

1. In this Act,

(a) "Deputy Minister" means the Deputy Minister of the Environment;

(b) "property" means real and personal property, including contractual benefits, patent rights, money, rights in futuro and choses in action generally;

(c) "Trust" means the Alberta Environmental Research Trust incorporated by this Act.

[1971, c. 31, s. 1]

Incorporation

2. There is hereby established a corporation with the name of the Alberta Environmental Research Trust consisting of the trustees appointed by or pursuant to section 5.

[1971, c. 31, s. 2: 1975 (2), c. 53, s. 2]

Objects

3. The objects of the Trust are

(a) to seek and receive property by gift, bequest, devise, transfer or otherwise, and

(b) subject to any prior trust conditions imposed upon the use of the property, or the income thereof, or any of it, to hold, use and administer it for the purpose of provincial expansion of applied and fundamental research relative to environmental improvement.

[1971, c. 31, s. 3]

Duties and powers

4. The Trust

(a) shall apply its property or expend the income therefrom for such particular purposes, including trust conditions imposed, that might not otherwise be readily met out of public funds;

(b) shall invest its funds in securities authorized by law for investment of trust funds or as may be directed by the donor;

(c) may enter into contracts and do all other things which may be necessary, desirable or expedient to effect its objects;

(d) shall endeavour, to the extent that it considers it reasonably feasible to do so, to apportion grants of its funds for research in each year equally between persons or bodies that are supported entirely or mainly by public moneys and those that are not.

[1971, c. 31, s. 4; 1972, c. 7, s. 2]

Board of trustees

5. (1) There shall be a board of trustees for the Trust consisting of the Deputy Minister and seven other persons appointed by the Lieutenant Governor in Council.

(1.1) The term of office of a trustee appointed by the Lieutenant Governor in Council shall be three years from the date of his appointment unless otherwise specified by the order making the appointment.

(2) The board of trustees shall elect a chairman from among its members by the affirmative vote of a majority of the trustees then holding office.

(2.1) The board may appoint such advisors as it considers necessary.

(2.2) The Minister of the Environment may provide such employees as may be necessary to carry out secretarial, clerical and accounting duties and other work required by the board.

(3) A majority of the trustees holding office constitutes a quorum.

(4) The trustees shall meet at least once a year on a date to be fixed by the chairman.

(5) The Minister of the Environment may authorize, fix and provide for the payment of remuneration and expenses to the trustees.

[1971, c. 31, s. 5; 1972, c. 7 s. 3; 1975 (2), c. 53, s. 3]

By-laws

6. (1) The trustees may make by-laws respecting

(a) the appointment, functions, duties and removal of all agents, officers and employees of the Trust and their remuneration.

(b) the time and place for the meetings of the trustees and the procedure to be followed at such meetings, and

(c) the general conduct of the business and affairs of the Trust.

(2) A by-law does not become effective

(a) unless it is passed by a majority of the trustees holding office, and

(b) until it is approved by the Minister of the Environment.

(3) A by-law signed by a majority of the trustees holding office is as valid and effective as if passed at a meeting of the trustees. [1971, c. 31, s. 6; 1972, 3. 7, s.4]

Committees

7. (1) The trustees may at any time delegate any of their powers to committees consisting of such of the trustees and of such other persons as the trustees consider advisable.

(2) Any committee so formed shall, in the exercise of the powers so delegated, conform and be subject to the directions, restrictions and by-laws, if any, that are imposed upon it by the trustees. [1971, c. 31, s. 7]

Coming into force

8. This Act comes into force on a date to be fixed by Proclamation. [*Eff. Dec. 17/71*][1971, c. 31, s. 8]

INDEX

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT 1971 CHAPTER 31 Sec.

Act
coming into force of 8
Alberta Environmental Research Trust see **Trust**
Annual Meeting
board of trustees ..... 5(4)
Board of trustees
delegation of powers by 7
Trust, for 5
By-laws
power to make 6
Committees
delegation of trustee's power to 7
Definitions 1
Deputy Minister
defined ..... 1(a)
Grants
research, for ..... 4(d)
Income
property, from, expanding of ..... 4(a)

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT—Con.

Incorporation
Trust, of 2
Meeting
trustees, of ..... 5(4),6(1)(b)
Membership
board of trustees ..... 5(1)
Minister see **Deputy Minister**
Minister of the Environment
approval of by-law ..... 6(2)(b)
powers of ..... 5(2.2,5)
Objects
Trust, of 3
Property
application of ..... 4(a)
defined ..... 1(b)
Research
environmental improvement, re ... 3(b)
Securities
investment in ..... 4(b)
Trust
defined ..... 1(c)
duties and powers of 4

As printed by the Queen's Printer for the Province of Alberta, Edmonton

PREVIOUS MEMBERS

BOARD OF TRUSTEES

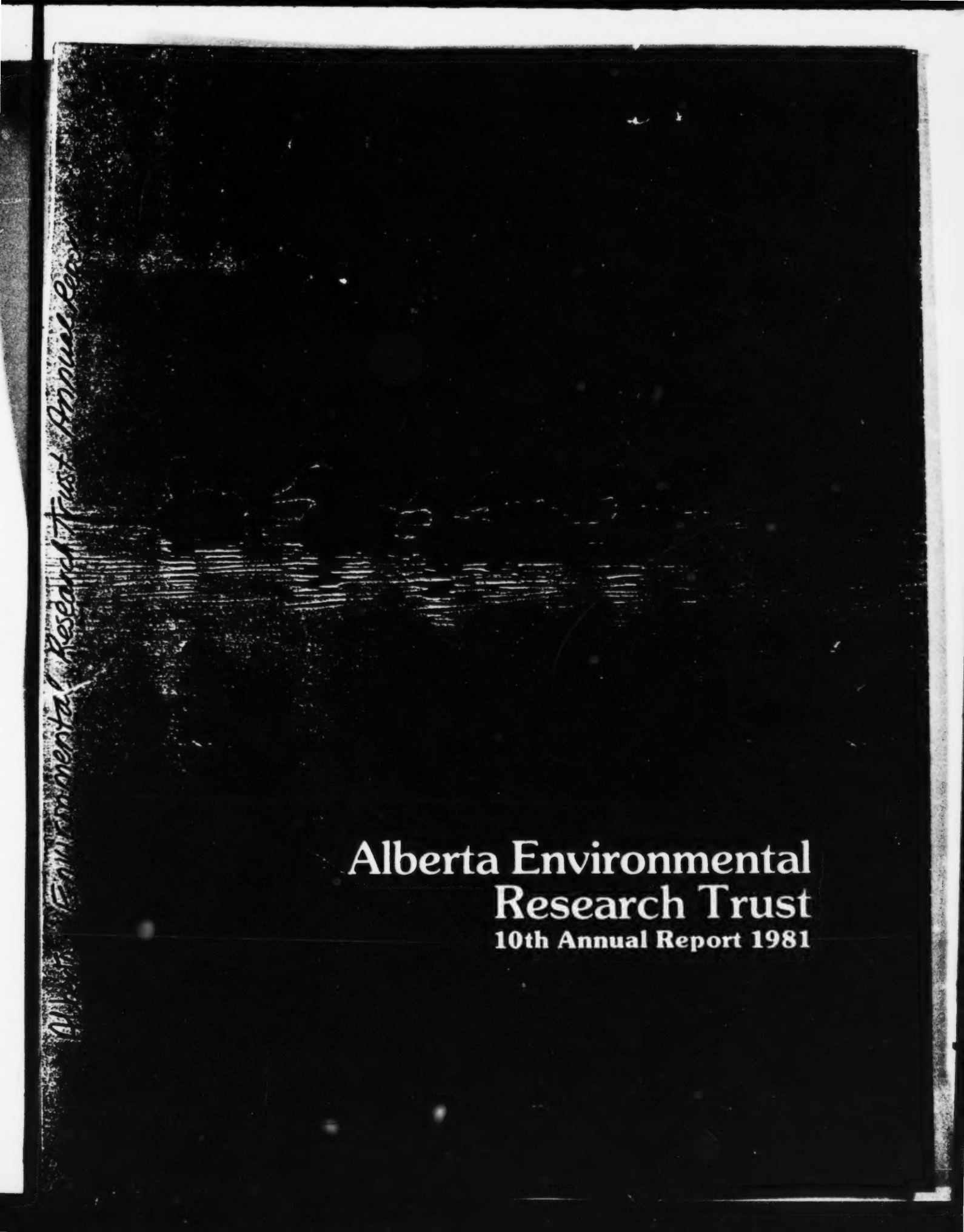
E.E. Ballantyne	Edmonton
F.D. Bradley	Blairmore
G. Conway	Edmonton
E.E. Daniel	Edmonton
Mrs. Elly De Jongh	Edmonton
H. Lembiez	Red Deer
W.J. Mooney	Calgary
W.R. Neufeld	Grande Prairie
C. Lynn Phillips	Lac La Biche
R.A. Ritter	Calgary
R. Scammel	Red Deer
A.R. Smith	Calgary

GRANTS ADVISORY COMMITTEE

D.A. Boag	Edmonton
D.A. Birdsall	Edmonton
P. Boothroyd	Edmonton
D.V. Currie	Edmonton
S. Herrero	Calgary
R.A. Hursey	Edmonton
R. Leech	Edmonton
T.W. Manning	Edmonton
W.R. MacDonald	Edmonton
R.D. Rowe	Calgary
H.S. Sandhu	Edmonton
H.P. Sims	Edmonton
D.J. Smith	Edmonton
S.B. Smith	Edmonton

Number/
Numéro

3



Alberta Environmental Research Trust

10th Annual Report 1981

HISTORY

The Alberta Environmental Research Trust was created in the spring of 1971 by enactment of the Legislative Assembly of Alberta to provide a mechanism for "the expansion of applied and fundamental research relative to environmental improvement."

Security against the inconsistencies of nature appears to have remained a constant goal throughout the history of human development.

In accomplishing this, humans have fought for thousands of years to free themselves from environmental restraints in their daily lives.

Certainly there is acceptance of the need for research to provide an "Environmental Census" not only in biophysical terms, but in terms of human values and perceptions.

Many people are asking whether some of the penalties we are paying as a result of environmental degradation caused by the human fight are too high.

A yearly grant of $400,000.00 is provided by the Government of the province of Alberta and contributions are accepted from other sources.

To serve this end, the Trust is enjoined to "seek and receive" the necessary funds allowing the organization to support environmental research.

Where feasible, the Trust will apportion grants of its funds for research in each year equally between persons or institutions that are supported entirely or mainly by public monies and those that are not.

Provision has been made for the operation of the Trust in a manner consistent with corporate operation and according to legislation specifically concerning Trust Funds in Alberta.

Since the inception of the Trust the Trustee's have granted $2,491,150.00 for which $411,799.00 has been received from the private sector.

Alberta Department of the Environment
Library

Providing Funds For Environmental Research

Library
Alberta
ENVIRONMENT

ANNUAL REPORT
FOR
THE YEAR 1981

CONTENTS

Board of Trustees
Grants Advisory Committee 3

Chairman's Report 4

A List of Projects in Progress 10-11

Statement of Revenue, Expenditure and Unexpended Funds

Balance Sheet

Notes to Financial Statements

Auditor's Report

A List of Projects Complete 15-16

Alberta Environmental Research Trust Act 19-23

Contributions Private 18

Previous Members 24

John F. Russell
Secretary

Alberta Environmental Research Trust Office
8th FLOOR
J.J. BOWLEN BLDG.
620 - 7th AVE. S.W.
CALGARY, ALBERTA T2P 0Y8

TELEPHONE
(403) 261-2360

ALBERTA ENVIRONMENTAL RESEARCH TRUST

Left to right: Mr. D. Weidner, Dr. S. Weaver, Director of A.E.C., Mr. H.V. Page, Chairman of G.A.C., Mr. Walter Solodzuk, Mr. D. Colley, Dr. A.B. Jones, Mr. K. Stiles, Mr. A. Avery, Mr. D. Anderson, Mr. D.V. Currie.

BOARD OF TRUSTEES

Chairman — Mr. D.V. Currie, P. Geol.
Edmonton

Mr. D. Anderson
M.L.A.
Calgary

Dr. A. B. Jones
Edmonton

Mr. K. R. Stiles
High River

Mr. D. Weidner
Lacombe

Mr. D. Colley, P. Eng.
Cochrane

Mr. A. Avery
Fort McMurray

Mr. W. Solodzuk, P. Eng.
Edmonton

GRANTS ADVISORY COMMITTEE

Chairman — Mr. H.V. Page, P. Eng.
Alberta Chamber of Resources
Environmental Engineering

Prof. D. M. Taylor
University of Calgary
Architecture

Dr. W. A. Charretski
Canada Agriculture
Toxicology

Mr. G. D. Greene, M.A.Sc.
Environmental Sciences Ltd.
Environmental Impact

Dr. D. Stokes
Dept. of the Environment
Human Systems

Dr. B. R. Hammond
Dept. of the Environment
Pollution Biology

alberta environmental research trust

March 19, 1982

It is a pleasure to report to you on behalf of the Board of Trustees on the program and activities of the Alberta Environmental Research Trust for the past year, and to look briefly at the past ten years.

1981 represents a significant milestone of one decade in the relatively short history of A.E.R.T.

During this twelve month period, twenty-three projects were funded for a total dollar value of $429,296.00.

It will be recalled that A.E.R.T. was established by an Act of the Legislature to undertake environmental research in our Province, and the Act was designed to encourage both the private and public sector to invest in this concept.

From its inception on April 16, 1971, the Alberta Environment Research Trust initially looked to the Environment Conservation Authority and its Public Advisory Committees on the Environment for an indication of environmental research priorities.

When the first meeting of the Board of Trustees was held in May, 1972, a draft set of by-laws was approved in principle and the necessity for a Grants Advisory Committee was recommended.

The Chairman and seven trustees continued to work from May, 1972, until January, 1973, to develop an apparatus for management of funds and creation of a Grants Advisory Committee to advise on research grant applications.

By the end of February, 1973, the Trust had approved by laws, and carried its review of research priorities to a point where it was prepared to approve the funding of research grants.

Since April, 1971 the Trustee's have granted $2,491,150.00 of which $411,799.00 has been received from the private sector.

We are please to report that in 1981 the business community contributed nearly $100,000.00 to the Trust's source of income.

During the past year our Act was amended to provide A.E.R.T. with a mandate to finance beyond the limitation of pure research and that specifically we be authorized to grant awards for "development" for those selected projects that were inspired through grants from A.E.R.T.

We are indebted to our Grants Advisory Committee and through their Chairman, Mr. H.V. Page, P. Eng. we express our appreciation. On behalf of the Board of Trustees, I wish to thank the Minister of the Environment, the Hon. J.W. Cookson for his enthusiastic and continued support.

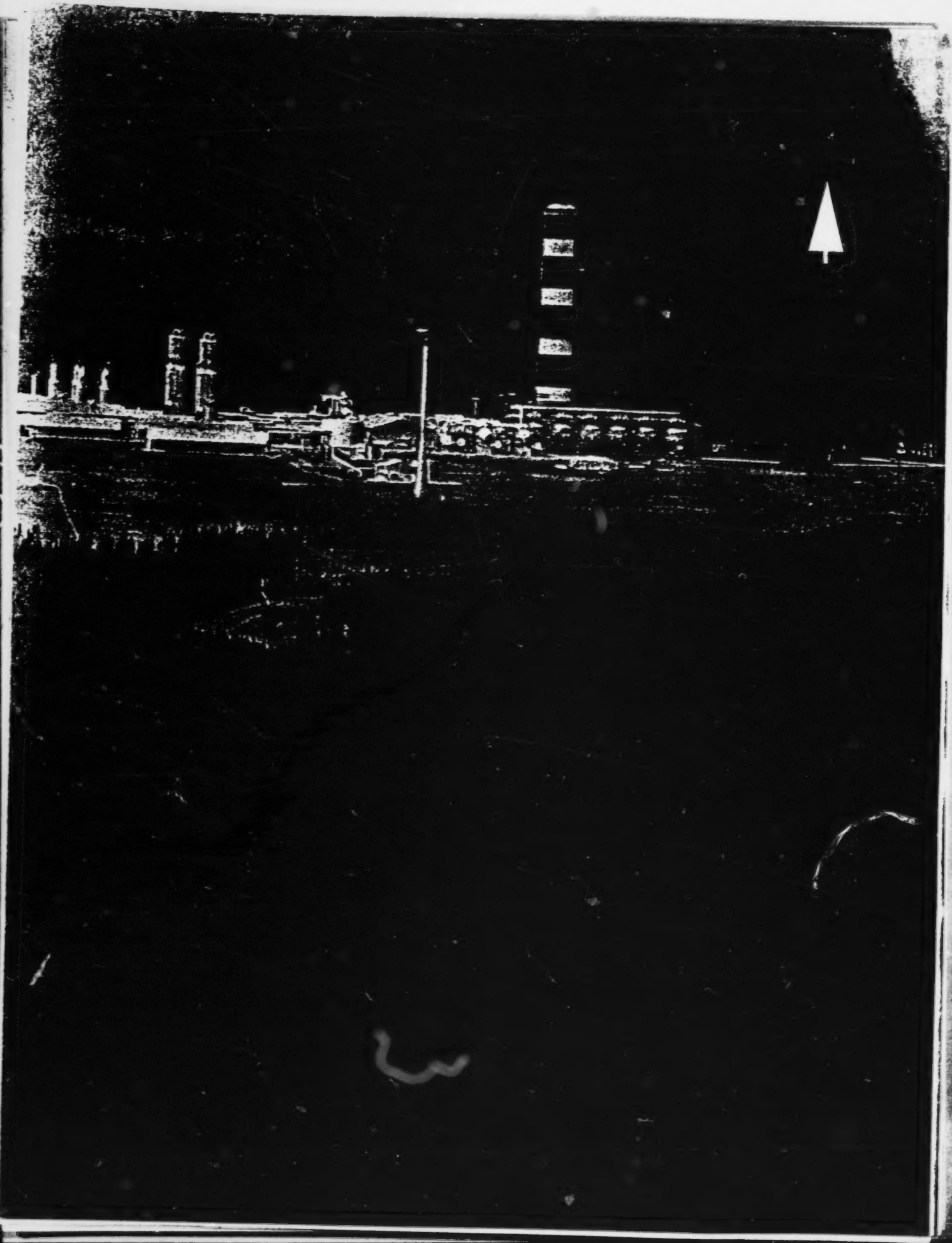
There exists within this organization a spirit of joie de vivre and this is essential to the continuance of the TRUST in a manner that will allow it to respond to the people of the province of Alberta and to solve environmental problems for our mutual benefit.

As retiring Chairman, I want to acknowledge the warm support I have received from my fellow Board members, and particularly the efficient service of our Secretary, Mr. John F. Russell.

To my successor, Mr. Ken R. Stiles, I wish every success.

All of which is respectfully submitted.

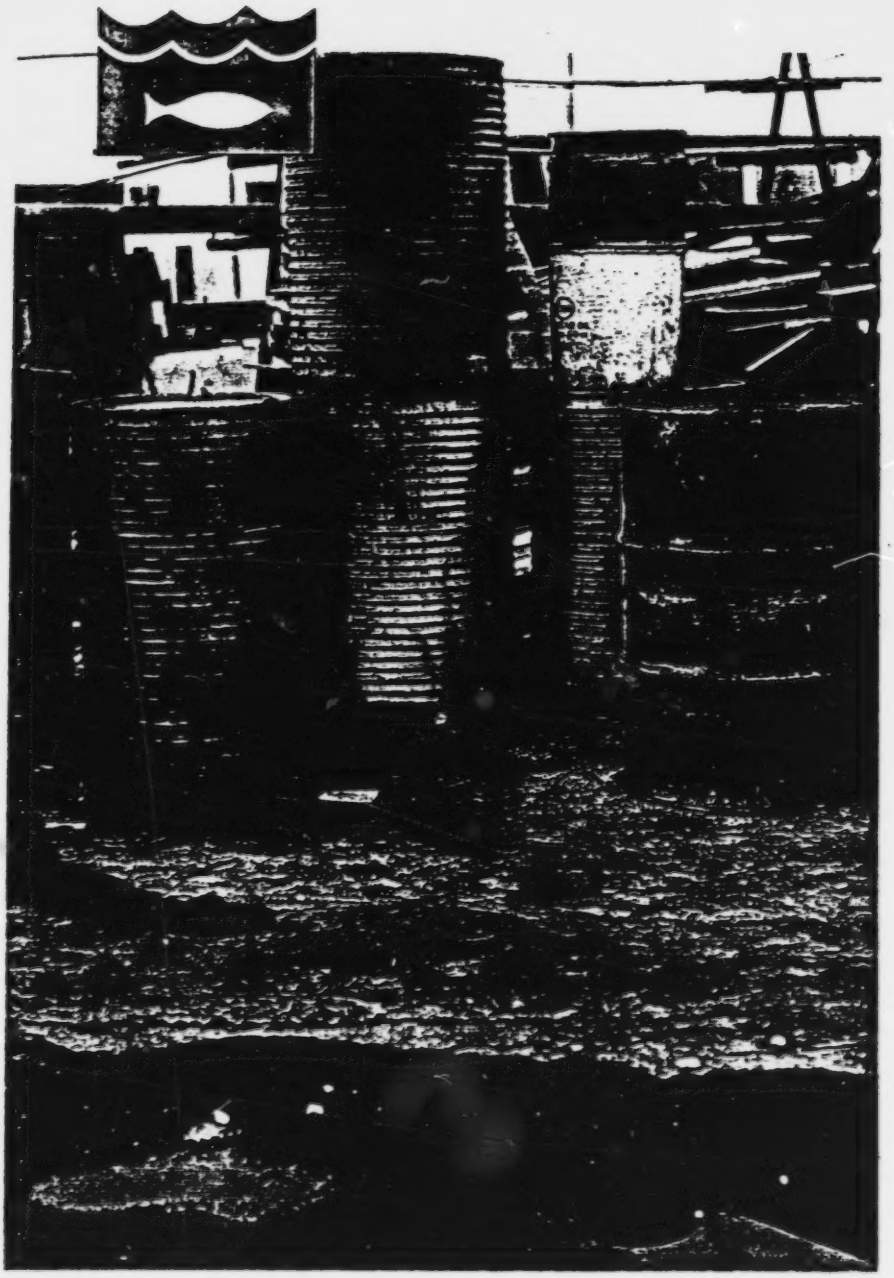
D.V. Currie, P. Geol.
Chairman



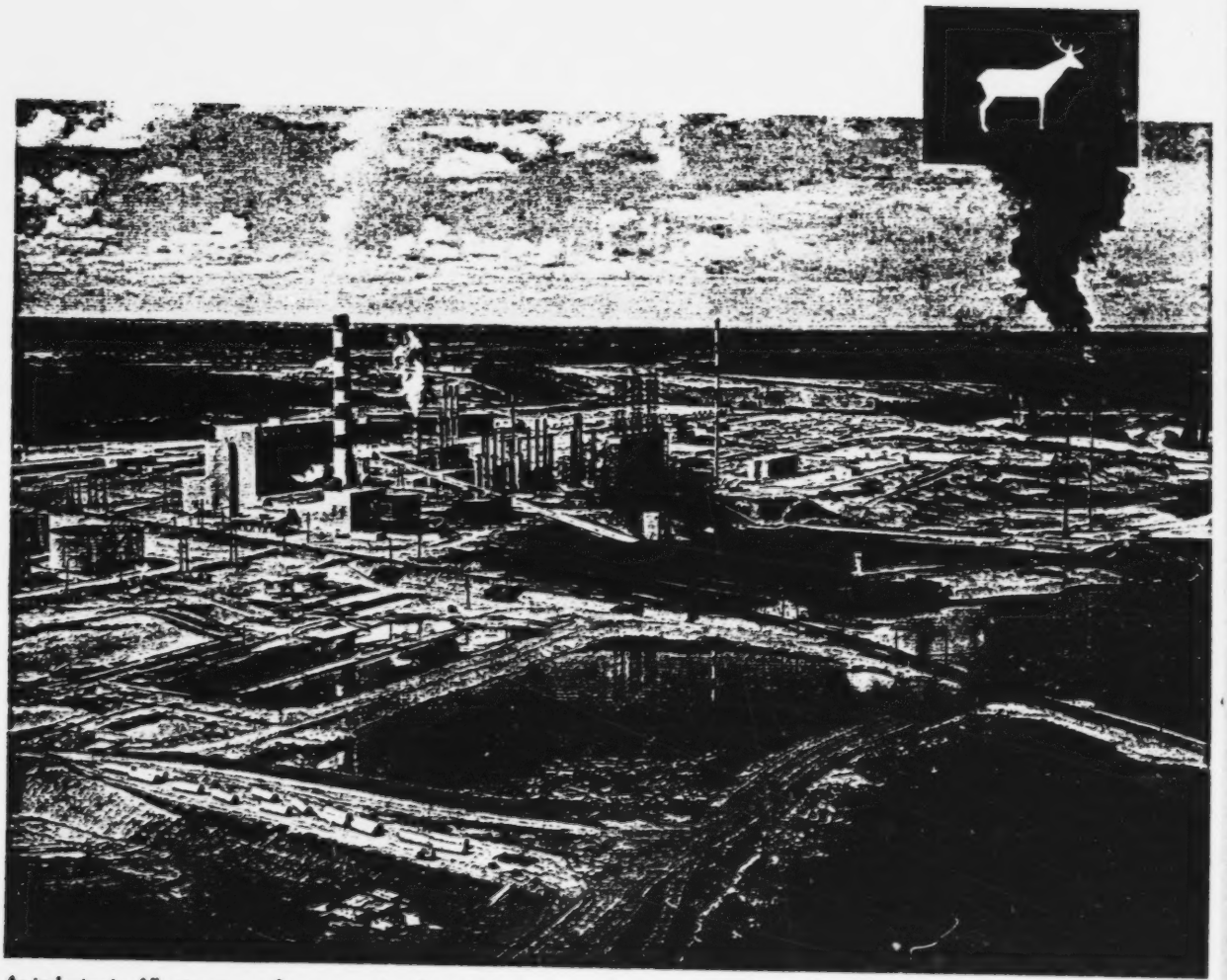
The influence of civilization on the animal kingdom may be positive or negative. Research into changing habits and distribution of animal species may give early warning of enviromental contamination.

◄ *Gas processing plants in the foothills have provided the setting for a number of research projects relating to the influence of topography on plume dispersal and the effect of sulphur res[illegible]ses on the environment.*

The Trust encourages 'people-oriented' research, be it better methods of environmental education or suggested new guidelines for governments and communities as our human environment becomes more complex.



Millions of gallons of waste oil accummulate in Alberta every year. The Trust has funded several studies in this area, including examination of methods of safe disposal, various projects relating to biological degradation of waste oil, and the effect of waste oil constituents on microbial and human populations.



As industry in Alberta encroaches on previously pristine areas, environmental changes must be monitored. The Alberta Environmental Trust by itself and in joint funding arrangements with the private sector have encouraged research projects which have defined these changes, explored methods for control of deleterious changes and solved reclamation difficulties. The enthusiasm of Universities, Industry and private citizens for conducting research into many aspects of the environment in Alberta has brought to light new understanding about the land we live on, and has helped to solve many potential problems before they become of concern.

PROJECTS IN PROGRESS

Title: The Persistence in the Alberta Environment of Carcinogens Derived from Used Lubricating Oils

Grantee: Kenneth E. Sanderson
University of Calgary $19,200.00

Title: Converting Fly Ash into Hydraulic Cements

Grantee: R.C. Joshi
University of Calgary $19,950.00

Title: The Nature of Microbial Symbiosis in Plant/Shizosheath Association

Grantee: LGL Limited
Edmonton $11,000.00

Title: Identification of Thresholds within the Relationship of Population Growth and Provision of Services

Grantee: Mrs. A. Parkinson
Red Deer $10,000.00

Title: Use of Aquatic Invertebrates for Monitoring Environmental Quality in the Peace and Athabasca Rivers

Grantee: H. J. Boerger
University of Calgary $ 5,000.00

Title: Microbial Transformation of Polycyclic Aromatic Hydrocarbons in Soil; End Products of Fungal Metabolism of Benzo(a)-Pyrene

Grantee: Dr. M. Kapoor
University of Calgary $19,000.00

Title: Dispersion of Stable Atmosphere on the Lee Side of a Ridge

Grantee: Dr. R. Rowe
University of Calgary $10,000.00

Title: Evaluation of Avalanche Hazard in Kananaskis Country

Grantee: H. J. McPherson
University of Alberta $17,050.00

Title: Optimal Energy Effectiveness Study of a Means to Establish Preferred Conditions for Human Work and Recreation

Grantee: T. M. Nelson
University of Calgary $60,000.00

Title: Environmental Change in the Canadian High Arctic

Grantee: J. England
University of Alberta $ 7,540.00

Title: Removal of Organic Pollutants from Aquatic Environments by Bacterial Activity

Grantee: J. W. Costerton
University of Calgary $ 8,300.00

Title: Background Radiation Radioactivity Level in Drinking Water and Their Correlation to the Incidence of Cancer

Grantee: J. W. Tse
Edmonton $19,500.00

Title: The Effects of Insecticides on Saskatoon Pollen Germination

Grantee: F. Kozar
Grande Prairie
Regional College $ 3,470.00

Title: Solar Legislation for the Province of Alberta

Grantee: R. M. Kruhlak
Edmonton $ 6,000.00

Title: A Comparison of Barriers and Incentives for Soft and Hard Paths in Canada

Grantee: P. S. Elder
University of Calgary $18,313.00

Title: The Water Balance of Three Urbanized Drainage Basins in Edmonton

Grantee: F. B. MacKenzie
University of Alberta $17,800.00

Title: Mechanism of Information Transaction from Pheromone to Receptor Molecule in the Olfactory Organs of Insects

Grantee: H. Wieser
University of Calgary $20,000.00

Title: Reclamation of Brine Spills in Upland Boreal Forest Areas

Grantee: Canadian Petroleum Association $12,500.00

Title: Complexity and Stability of Boreal Forest Ecosystems in the Hondo-Lesser Slave Lake Area

Grantee: G. H. LaRoi
University of Alberta $20,000.00

Title: Development of a Computer Model Simulating the Operation of an Irrigation District in Southern Alberta

Grantee: J. P. Verschuren
University of Alberta $12,787.00

Title: Environmental Noise Guidelines for Alberta Background Investigations and Recommendations

Grantee: Dr. C. G. Balachandra
Western Research $18,000.00

Title: Land Reclamation Research Project

Grantee: Mr. L. Duby
Smokey River Surface Rights Society
Falher, Alberta $26,956.00

Title: Milner Fly Ash Study

Grantee: Pozzolanic Internation Ltd. $12,000.00

Title: An Investigation into the Factors Affecting the Survival of Plains Cottonwood on the Milk River Flood Plain, Alberta and Montana

Grantee: D. G. Smith
University of Calgary $ 7,000.00

Title: Improvement of Models to Predict Lake Greeness by Inclusion of a Grazer Term

Grantee: E. Prepas
University of Alberta $15,200.00

Title: To Conduct a Study on Forest Growth and Productivity on and Adjacent to Seismic Lines in West-Central Alberta

Grantee: Canadian Petroleum Association $30,000.00

Title: Intestinal Helminths of Dogs and Cats in Southern Alberta - Prevalance and Public Health Significance

Grantee: Dr. P. D. Lewis Jr.
University of Lethbridge $ 8,400.00

Title: Control of Erosion Following a Brine Spill in Boreal Forested Areas by Increasing the Rate of Recovery of Mosses

Grantee: G. R. Webster
University of Alberta $10,700.00

Title: Research into Land Farming For Oily Waste disposal

Grantee: Peake and Holowachuk
University of Calgary $71,900.00

Title: Enhancement of Nitrogen Uptake By Grasses Used In Reclamation Through Association With Nitrogen Fixing Bacteria

Grantee: Norwest Soil Research Ltd. $ 8,690.00

ALBERTA ENVIRONMENTAL RESEARCH TRUST
BALANCE SHEET
AS AT DECEMBER 31, 1981

ASSETS

	1981	1980
Current:		
Cash	$ 24	$ 796
Deposits in trust with the Province of Alberta	440,356	148,326
Travel advance to employee	1,800	500
Prepaid insurance	112	225
	$ 442,292	$ 149,848

LIABILITIES

Current:		
Bank overdraft	$ -	$ 4,181
Research grants payable	15,140	9,751
Legal fees payable	610	-
Unexpended funds, Statement B	426,542	-
	$ 442,292	135,916
		$ 149,848

The accompanying notes are part of these financial statements.

Statement B

ALBERTA ENVIRONMENTAL RESEARCH TRUST
STATMENT OF REVENUE, EXPENDITURE AND UNEXPENDED FUNDS
FOR THE YEAR ENDED DECEMBER 31, 1981

REVENUE

	1981	1980
Grants from the Province of Alberta	$ 440,000	$ 240,000
Private donations	82,600	1,000
Interest income	59,228	28,975
	$ 581,828	$ 269,975

EXPENDITURE

Research grants	$ 227,003	341,331
Salaries and employee benefits	39,481	34,970
Travel and entertainment	10,483	5,598
Printing and office supplies	9,200	8,300
Honoraria payable	3,616	
Legal and settlement expenses	610	1,706
Moving expenses	-	2,500
Miscellaneous	809	843
	$ 291,202	$ 395,248
Excess (deficiency) of revenue over expenditure	290,626	(125,273)
Unexpended funds at beginning of year	135,916	261,189
Unexpended funds at end of year	$ 426,542	$ 135,916

ALBERTA ENVIRONMENTAL RESEARCH TRUST
NOTES TO THE FINANCIAL STATEMENTS
DECEMBER 31, 1981

Note 1 Authority

The Alberta Environmental Research Trust operates under the authority of The Alberta Environmental Research Trust Act, Chapter 31, Statutes of Alberta 1971, as amended.

Note 2 Deposits in Trust

Deposits in trust consist of deposits in the Consolidated Cash Investment Trust Fund of the Province of Alberta.

Note 3 Administration Costs

Equipment, furniture and certain administrative costs are provided at no charge by the Province of Alberta and, accordingly, are not reflected in these financial statements.

Note 4 Commitments

In addition to the total expenditure shown on Statement B, the Trust had outstanding commitments as at December 31, 1981 totalling $245, 787 (1980: $90,558) for approved projects. Further commitments totalling $145,066 were made in January 1982.

Note 5 Statement of Changes in Financial Position

A statement of changes in financial position has not been provided as disclosure in these financial statements is considered to be adequate.

Note 6 Approval of Financial Statements

These financial statements were approved by management on March 1, 1982.

OFFICE OF THE AUDITOR GENERAL

AUDITOR'S REPORT

To the Board of Trustees of the
Alberta Environmental Research Trust

I have examined the balance sheet of the Alberta Environmental Research Trust as at December 31, 1981 and the statement of revenue, expenditure and unexpended funds for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

Inasmuch as revenue from private donations could not be completely verified by audit procedures, my examination of this revenue was confined to those amounts recorded by the Trust.

In my opinion, except for the effect of any adjustments which might have been required had I been able to verify the completeness of revenue from private donations, these financial statements present fairly the financial position of the Trust as at December 31, 1981 and the results of its operations for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Edmonton, Alberta
March 1, 1982

Douglas W. Rogers
Auditor General C.A.

COMPLETED PROJECTS

A study of environmental problems arising from oil spillage
University of Calgary, Mohtadi

A study of the environment of the Whitecourt area of Alberta with particular regard to the effects of sulphur compounds
Whitecourt Environmental Study Group

Computer techniques for predicting various types of effluents on the environment
University of Calgary, Aziz

Automatic exhaust emission control under low ambient temperature conditions
University of Calgary, Karim

Development of an Environment Research Inventory of Projects and Expertise in Alberta
Schick Information Systems Limited, Edmonton

Epiphytic Lichens as Indicators of Air Pollution
University of Calgary, Bird-Case

Reclamation techniques on crude oil spills
University of Alberta, Toogood

Removal of hydrocarbons from Aqueous Waste Water from Oil Sand Recovery Operations
University of Calgary, Tollefson

A Sutdy of Bacterial Adherence to Solid Surfaces in Fresh Water Environment
University of Calgary, Costerton

Environmental and society in Alberta
University of Alberta, Stehr

Ipiatik Gas Field Facilities, Environmental Location and Design Study
Amoco Canada Petroleum Ltd.

Microbial and biochemical studies of Edmonton industrial lagoons
City of Edmonton

Heavy Metals in selected crops and soils of Alberta
Unviersity of Alberta, Pawluk & Dudas

A study of the fate of emitted sulphur dioxide
University of Alberta, Bentley - Nyborg

Occupational and community risk of death from carbon monoxide in Calgary
University of Calgary, Hodgson

Wildlife production in Alberta
Synergy West Limited, Calgary

Social implications of multiple family environments
Urban Research, Edmonton

Treatments of tar sands tailings with fly ash
Unversity of Saskatchewan, Bakshi

To investigate Sulphur Isotope Abundances Near Gas Processing Plants
University of Calgary, Krouse

Women and the environment
Mrs. Abercrombie, Edmonton

Recycling waste lubricating oils, Part II
Synergy West Limited, Calgary

Influence of Parents and Media on Children's Information, Values and Behaviours toward the Environment
University of Calgary, Fouts

Control of Drift from Aerial Spraying
Lakeland College Vermilion Campus, Laurin

Preparation and evaluation of peat moss blocks and slabs for combating oil pollution
Research Council, Mitchell

Activity and movement patterns of native fish
University of Alberta, Mackay

Reclamation and recycling for solid wastes
University of Alberta, Sprague

The visual element in natural park evaluation
University of Alberta, Fuller

The urban heat island of Calgary
University of Calgary, Nkemdirim

Criteria and priorities for funding research
Western Ecological Surveys

Anhydrous Recovery of Bitumen in a Fluidized Bed Reactor
University of Calgary, Bennion

Odor control in pig wastes
University of Alberta, McQuitty

Utilization of Solar Energy
University of Alberta, Weichman

Carcinogenic hydrocarbons as pollutants in the atmosphere of Calgary
University of Calgary, Hodgson

Selection and Survey of Potential Ecological Reserves
University of Alberta, LaRoi

Effects of the Shell Waterton Gas Plant on soils, water and rainfall
McKinnon, Allen and Associates

Carcinogenic Hydrocarbons as Potential Environment Pollutants in Alberta Resource Development
University of Calgary, Peake

COMPLETED PROJECTS

Field Investigations of the Dispersion of Pollution within an Area of Complex Terrain
University of Calgary, Rowe

Problems and Potential for Spray Irrigation of Sewage in Rural Albertan Communities
University of Calgary, Tester

Thermal Pollution and Variation of Species Composition in the Sheep River
R.R. Anderson, Calgary

Selection and survey of potential ecological reserves
University of Alberta, Fuller

Clarification of waste water from tar sands
Wilson Mud Service

Use of field techniques in high school environmental studies
A.R.L. Fenna

Terrestrial Ecology of the Clifford E. Lee Sanctuary / Vegetation and Birds
University of Alberta, Hodgetts

The Plant Communities of Northern Alberta, A Classification
University of Alberta, LaRoi

Assessment of Human Services in a Community about to be Impacted by Multiple Industrial Developments
S. Snow
Hinton

Salt Water Spills Research in the Swan Hills
Canadian Petroleum Association

Heavy Metals and Other Elements in Fly Ash and Their Behaviour and Influence in Fly Ash Amended Soil Material
University of Alberta, Dudas

Biophysical Inventory of the Gregoire Lake Area Using Colored Infrared and Land-Sat Imagery
Amoco Canada Petroleum Limited

Solid waste management in regards to recycling sawdust
M.B.M. Research, Calgary

Recycling waste lubricating oils
Synergy West Limited, Calgary

Activity and movements of northern pile
University of Alberta, Mackey

Hydrology and Water Quality Project for Clifford E. Lee Sanctuary
University of Alberta, Hodgetts

Assessment of Environmental Impact of Agriculture Operations on Rivers and River Shore Lands
Messers Taylor
Manz, Lethbridge

Characterization of Toxic Compounds in Waste Drilling mud
Canadian Petroleum Association

Biodegration of Environmental Pollutants
University of Calgary, Kapoor

Investigation of Subatmospheric In-situ Leak Detection Methods for Underground Hydrocarbon Storage Tanks
E. Adams, Athabasca
Reasearch Corp. Limited

Bottom Fly Ash in Place of Aggregates in Asphalt Stablized Soils
Consolidated Concrete Limited

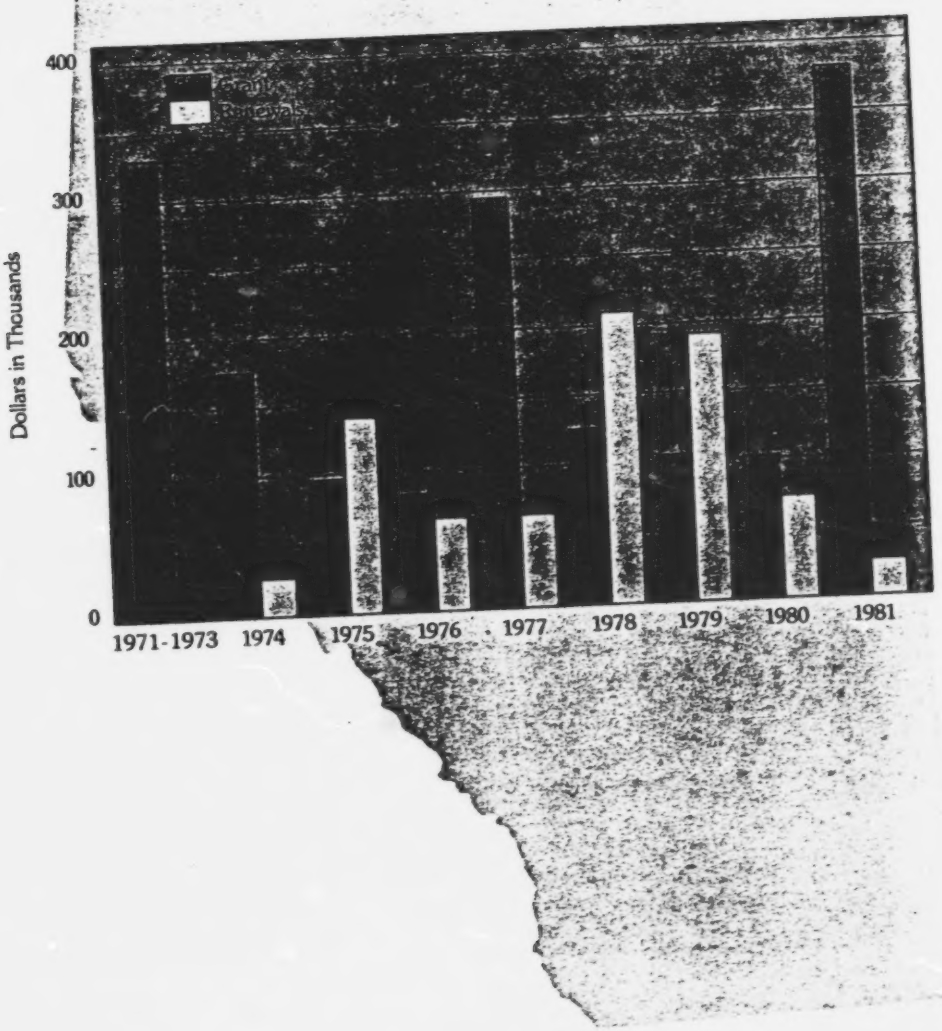
Task forces on urban environment
Edmonton Social Planning Council

The spatial and economic impact of recreational expenditures and sales in the Pigeon Lake area of Alberta
University of Alberta, Ironside

Low Levels of Ethylene as a Phytotoxicant
University of Calgary, Reid

Use of Natural Soil and Synthetic Liners to Control Lechate Migration
D.J. Folkes
Komex Consultants

1. Total of funds from December 31, 1973 to December 31, 1981	$2,736,852.00
2. Total number of Projects from December 31, 1973 to December 31, 1981	144
3. Total number of applications from December 31, 1973 to December 31, 1981	545
4. Percent of Projects funded as to total applications	26.4%
5. Average cost of Projects	$19,005.00
6. Average available funds per year	$304,094.00
7. Percent of private funds to Government funds	15%



CONTRIBUTIONS PRIVATE

1) Amric Reclaimers Ltd.
2) Canadian Petroleum Association
3) Esso Resources Canada Limited
4) Home Oil Company Ltd.
5) Hudsons Bay Oil & Gas Co. Ltd.
6) Pembina Oil Separators (1979) Ltd.
7) Pozzolanic International (Alberta) Ltd.
8) Saskatchewan - Alberta Waste Disposal Co-op

$82,600.00

Extraction and purification of our natural resources may place great pressures on the environment. Research funded by the Trust and private industry has helped to minimize these pressures and keep our air and soil clean and productive.

GOVERNMENT OF THE PROVINCE OF ALBERTA

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT

CHAPTER A-20
REVISED STATUTES OF ALBERTA 1980

Printed by Queen's Printer

11510 Kingsway Ave.
Edmonton, T5G 2Y5
427-4952

J. J. Bowlen Bldg.
620 - 7th Ave. S.W.
Calgary, T2P 0Y8
261-6251

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT

CHAPTER A-20

HER MAJESTY, by and with the advice and consent of the Legislative Assembly of Alberta, enacts as follows:

Definitions

1 In this Act,

(a) "property" means real and personal property, including contractual benefits, patent rights, money, rights in futuro and choses in action generally;

(b) "Trust" means the Alberta Environmental Research Trust incorporated by this Act.

1971 c31 s1

Incorporation

2 There is hereby established a corporation with the name "Alberta Environmental Research Trust" consisting of the trustees appointed by or pursuant to section 5.

1971 c31 s2;1975(2) c53 s2

Objects

3 The objects of the Trust are

(a) to seek and receive property by gift, bequest, devise, transfer or otherwise, and

(b) subject to any prior trust conditions imposed on the use of the property, or the income from it, or from any of it, to hold, use and administer it for the purpose of provincial expansion of applied and fundamental research relative to environmental improvement.

1971 c31 s3

Duties and powers

4 The Trust

(a) shall apply its property or expend the income therefrom for particular purposes, including trust conditions imposed, that might not otherwise be readily met out of public funds;

(b) shall invest its funds in securities authorized by law for investment of trust funds or as may be directed by the donor;

(c) may enter into contracts and do all other things necessary, desirable or expedient to effect its objects;

(d) shall endeavour, to the extent that it considers it reasonably feasible to do so, to apportion grants of its funds for research in each year equally between persons or bodies that are supported entirely or mainly by public money and those that are not.

1971 c31 s4;1972 c7 s2

Board of trustees

5(1) There shall be a board of trustees for the Trust consisting of the Deputy Minister of the Environment and 7 other persons appointed by the Lieutenant Governor in Council.

(2) The term of office of a trustee appointed by the Lieutenant Governor in Council shall be 3 years from the date of his appointment unless otherwise specified by the order making the appointment.

(3) The board of trustees shall elect a chairman from among its members by the affirmative note of a majority of the trustees then holding office.

(4) The board may appoint any advisors it considers necessary.

(5) The Minister of the Environment may provide any employees necessary to carry out secretarial, clerical and accounting duties and other work required by the board.

(6) A majority of the trustees holding office constitutes a quorum.

(7) The trustees shall meet at least once a year on a date to be fixed by the chairman.

(8) The Minister of the Environment may authorize, fix and provide for the payment of remuneration and expenses to the trustees.

1971 c31 s5;1972 c7 s3;1975(2) c58 s3

By-laws

6(1) The trustees may make by-laws respecting

(a) the appointment, functions, duties and removal of all agents, officers and employees of the Trust and their remuneration;

(b) the time and place for the meetings of the trustees and the procedure to be followed at the meetings;

(c) the general conduct of the business and affairs of the Trust.

(2) A by-law does not become effective

(a) unless it is passed by a majority of the trustees holding office, and

(b) until it is approved by the Minister of the Environment.

(3) A by-law signed by a majority of the trustees holding office is as valid and effective as if passed at a meeting of the trustees.

1971 c31 s6;1972 c7 s4

Committees

7(1) The trustees may at any time delegate any of their powers to committees consisting of such of the trustees and of such other persons as the trustees consider advisable.

(2) A committee so formed shall, in the exercise of the powers so delegated, conform and be subject to the directions, restrictions and by-laws, if any, that are imposed on it by the trustees.

1971 c31 s7

Bill 64
Mr. D. Anderson

ENVIRONMENT STATUTES AMENDMENT ACT, 1981

As revised pursuant to section 6 of
The Revised Statutes 1980 Act

CHAPTER 67

(Assented to December 2, 1981)

HER MAJESTY, by and with the advice and consent of the Legislative Assembly of Alberta, enacts as follows:

Alberta Environmental Research Trust Act

RSA 1980 cA-20

1(1) The Alberta Environmental Research Trust Act is amended by this section.

(2) Section 3(b) is amended by adding "and development" *after* "research".

(3) Section 4(d) is amended by adding "and development" *after* "research".

INDEX

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT 1971 CHAPTER 31 Sec.

Act
coming into force of 8
Alberta Environmental Research Trust see **Trust**
Annual Meeting
board of trustees ..... 5(4)
Board of trustees
delegation of powers by 7
Trust, for 5
By-laws
power to make 6
Committees
delegation of trustee's power to 7
Definitions 1
Deputy Minister
defined ..... 1(a)
Grants
research, for ..... 4(d)
Income
property, from, expanding of ..... 4(a)

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT — Con.

Incorporation
Trust, of 2
Meeting
trustees, of ..... 5(4),6(1)(b)
Membership
board of trustees ..... 5(1)
Minister see **Deputy Minister**
Minister of the Environment
approval of by-law ..... 6(2)(b)
powers of ..... 5(2.2,5)
Objects
Trust, of 3
Property
application of ..... 4(a)
defined ..... 1(b)
Research
environmental improvement, re ..... 3(b)
Securities
investment in ..... 4(b)
Trust
defined ..... 1(c)
duties and powers of 4

PREVIOUS MEMBERS

BOARD OF TRUSTEES

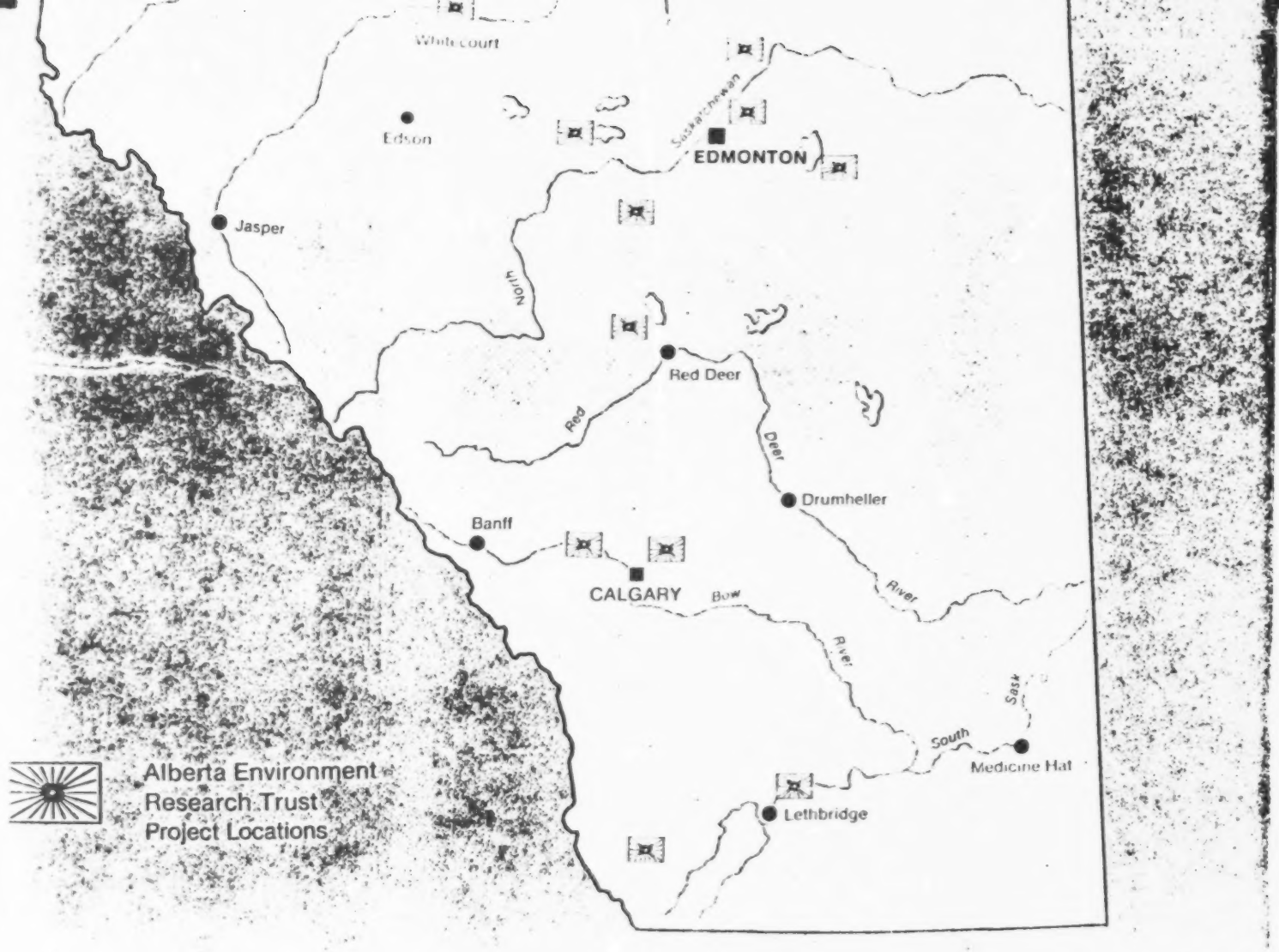
• E.E. Ballantyne	Edmonton
F.D. Bradley	Blairmore
R.L. Colborne	Wetaskiwin
• G. Conway	Edmonton
• E.E. Daniel	Edmonton
• Mrs. Elly De Jongh	Edmonton
H. Lembiez	Red Deer
G.J. Mair	Calgary
• Mrs. B. Mitchell	Edmonton
W.J. Mooney	Calgary
• W.R. Neufeld	Grande Prairie
C. Lynn Phillips	Lac La Biche
• R.A. Ritter	Calgary
• R. Scammel	Red Deer
A.R. Smith	Calgary

GRANTS ADVISORY COMMITTEE

D.A. Boag	Edmonton
D.A. Birdsall	Edmonton
P. Boothroyd	Edmonton
D.V. Currie	Edmonton
S. Herrero	Calgary
R.A. Hursey	Edmonton
Dr. A. B. Jones	Edmonton
R. Leech	Edmonton
N.M. Kerwetz	Edmonton
T.W. Manning	Edmonton
W.R. MacDonald	Edmonton
R.D. Rowe	Calgary
H.S. Sandhu	Edmonton
H.P. Sims	Edmonton
D.J. Smith	Edmonton
S.B. Smith	Edmonton

• DENOTES ORIGINAL BOARD MEMBER

Peace River
Peace River
Fort McMurray
Grande Prairie
Slave Lake
Smoky River
Athabasca
Lac La Biche


Whitecourt
Edson
EDMONTON
Jasper
North
Red Deer
Red
Deer
Drumheller
Banff
CALGARY
Bow
River
South
Sask
Medicine Hat
Lethbridge
Alberta Environment
Research Trust
Project Locations

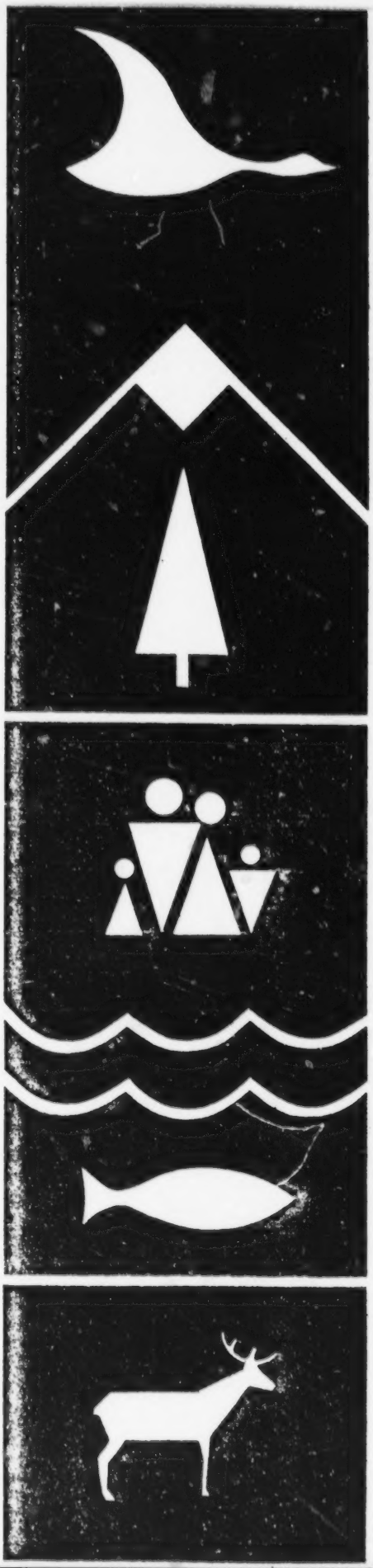
Number/
Numéro

4

Alberta Environmental Research Trust. Annual Report

ALBERTA ENVIRONMENTAL RESEARCH TRUST

CREATED BY LEGISLATIVE ENACTMENT APRIL 16, 1971



ANNUAL REPORT
For the Year 1982

HISTORY

The Alberta Environmental Research Trust was created in the spring of 1971 by enactment of the Legislative Assembly of Alberta to provide a mechanism for "the expansion of applied and fundamental research and development relative to environmental improvement."

Security against the inconsistencies of nature appears to have remained a constant goal throughout the history of human development.

In accomplishing this, humans have fought for thousands of years to free themselves from environmental restraints in their daily lives.

Certainly there is acceptance of the need for research to provide an "Environmental Census" not only in biophysical terms, but in terms of human values and perceptions.

Many people are asking whether some of the penalties we are paying as a result of environmental degradation caused by the human fight are too high.

A yearly grant of $400,000.00 is provided by the Government of the province of Alberta and contributions are accepted from other sources.

To serve this end, the Trust is enjoined to "seek and receive" the necessary funds allowing the organization to support environmental research.

Where feasible, the Trust will apportion grants of its funds for research in each year equally between persons or institutions that are supported entirely or mainly by public monies and those that are not.

Provision has been made for the operation of the Trust in a manner consistent with corporate operation and according to legislation specifically concerning Trust Funds in Alberta.

Since the inception of the trust the Trustee's have granted $3,052,634.00 of which $486,449.00 has been received from the private sector.

ANNUAL REPORT
For the
Year Ended December 31, 1982

CONTENTS

Board of Trustees
Grants Advisory Committee 3

Chairman's Report 5

Projects Completed and Continuing 6-17

Statement of Revenue, Expenditure and Unexpended Funds
Balance Sheet 18-19

Notes to Financial Statements 20

Auditor's Report 21

Alberta Environmental Research Trust Act 23-27

Contributions Private 22

Previous Members 28

Library
Alberta
ENVIRONMENT

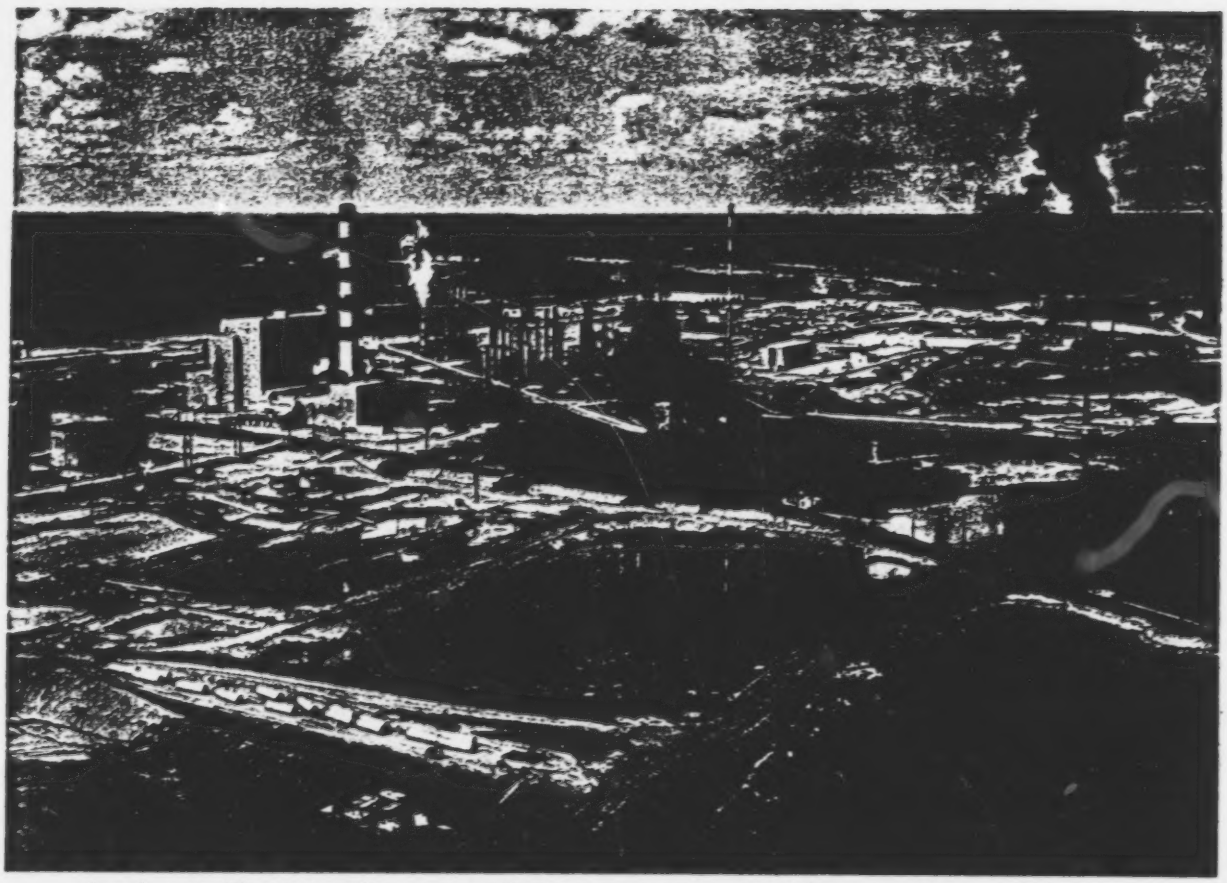
John F. Russell
Secretary

Alberta Environmental Research Trust Office

8th FLOOR
J.J. BOWLEN BLDG.
620 - 7th AVE. S.W.
CALGARY, ALBERTA T2P 0Y8

TELEPHONE
(403) 261-2360

Alberta Department of the Environment
Library



As industry in Alberta encroaches on previously pristine areas, environmental changes must be monitored. The Alberta Environmental Trust by itself and in joint funding arrangements with the private sector have encouraged research projects which have defined these changes, explored methods for control of deleterious changes and solved reclamation difficulties. The enthusiasm of Universities, Industry and private citizens for conducting research into many aspects of the environment in Alberta has brought to light new understanding about the land we live on, and has helped to solve many potential problems before they become of concern.

ALBERTA ENVIRONMENTAL RESEARCH TRUST

BOARD OF TRUSTEES

Chairman — Mr. K. R. Stiles, High River

Mr. D.V. Currie, P. Geol., Edmonton

Mr. D. Anderson, M.L.A., Calgary

Dr. A. B. Jones, Edmonton

Mr. D. Weidner, Lacombe

Mr. D. Colley, P. Eng., Cochrane

Mr. A. Avery, Fort McMurray

Mr. W. Solodzuk, P. Eng., Edmonton

GRANTS ADVISORY COMMITTEE

Chairman — Mr. H.V. Page, P. Eng., Alberta Chamber of Resources, Environmental Engineering

Prof. D. M. Taylor, University of Calgary, Architecture

Dr. W. A. Charnetski, Canada Agriculture, Toxicology

Mr. G. D. Greene, M.A.Sc., Environmental Sciences Ltd., Environmental Impact

Dr. D. Stokes, Dept. of the Environment, Human Systems

Dr. B. R. Hammond, Dept. of the Environment, Pollution Biology

Extraction and purification of our natural resources may place great pressures on the environment. Research funded by the Trust and private industry has helped to minimize these pressures and keep our air and soil clean and productive.

ALBERTA ENVIRONMENTAL RESEARCH TRUST

It is my pleasure to report to you for 1982, the 11th year of the Trust.

Twenty new projects were funded, and six grants were renewed for a total dollar value of $522,340.00: the largest granting year since the Trust's inception. The Trust is gratified that the general quality of proposal and requests for support from individuals and the private sector have continued to increase. In the fall granting period, in excess of one hundred applications were received with a total monetary value of over two million dollars. The Grants Advisory Committee and Trustees were severely tested in the adjudication of these grants.

The business community provided the Trust with income in the amount of $75,000.00 in 1982. We are extremely grateful to them, and ask for their continued support. With the strain on our own financial resources the Board of Trustees is actively pursuing programs of joint funding with individuals, industry, and government departments to enable additional grants to proceed in this period of low economic activity.

With reluctance and on the second recommendation of the Provincial Auditors, the Trust closed its general ledger and operating bank account in 1982 and placed its entire accounting function under the Alberta Financial Information System. On the current recommendation of the Provincial Auditors a general ledger will be re-established by the Trust with enthusiasm, in 1983 to ensure accountability for the Trustees. The Trust must continue to diligently monitor administrative and monetary accountability in order that the ratio of costs to grants may be maintained at the historical level of 11%.

On behalf of the Board of Trustees I wish to thank the past Minister of the Environment the Hon. J.W. Cookson for his enthusiastic support. We congratulate the new Minister, The Hon. F.D. Bradley, a past member of the Board of Trustees, and ask for his continued support and counsel in the years to come.

To the Chairman of the Grants Advisory Committee, Mr. H.V. Page, P.Eng. and to the other members of the G.A.C. our thanks for their dedicated assistance.

As retiring Board Chairman, my thanks to my fellow Board members for their patience and support, and to our secretary Mr. J.F. Russell, my thanks for his skillful day-to-day operation of the Trust.

I wish Dr. A.B. Jones, the 1983 Chairman, every success and continuation of the spirit of "joie de vivre" which has guided us well.

K.R. Stiles
Chairman

Projects Completed and Continuing

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
001	A Study of Environmental problems arising from oil spillage	University of Calgary Mohtadi	1973 1974 1975	$14,500 12,000 18,500	$45,000	Yes
002	Preparation and evaluation of peat moss blocks and slabs for combating oil pollution	Research Council Mitchell	1973	$ 8,404	$ 8,404	Yes
003	Heavy Metals in Selected Crops and Soils of Alberta	University of Alberta Pawluk & Dudas	1973 1974	$ 4,950 8,587	$13,537	Yes
005	A Study of the fate of emitted sulphur dioxide	University of Alberta Bentley - Nyborg	1973 1974 1975	$27,000 27,000 38,200	$92,200	Yes
008	Activity and movement of Northern Pike	University of Alberta Mackay	1973	$ 5,993	$ 5,993	Yes
011	Computer techniques for predicting various types of effluents on the environment	University of Calgary Aziz	1973 1974	$15,000 15,000	$30,000	Yes
012	A study of the environment of the Whitecourt area of Alberta with particular regard to the effects of sulphur compounds	Whitecourt Environmental Study Group	1973	$54,250	$54,250	Yes
013	Microbial and Biochemical studies of Edmonton Industrial Lagoons	City of Edmonton	1973	$16,000	$16,000	Yes
015	Occupational and community risk of death from carbon monoxide in Calgary	University of Calgary Hodgson	1973 1974	$14,650 15,084	$29,734	Yes
018	The spatial and economic impact of recreational expenditures and sales in the Pigeon Lake area of Alberta	University of Alberta Ironside	1973	$ 2,208	$ 2,208	Yes

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
020	Odour control in pig wastes	University of Alberta McQuitty	1973 1974	$ 1,650 1,500	$ 3,150	Yes
025	The visual element in natural park evaluation	University of Alberta Fuller	1973	$ 5,500	$ 5,500	Yes
033	Solid Waste Management in regards to recycling sawdust	M.B.M. Research Calgary	1973	$46,332	$46,332	Yes
034	Reclamation techniques on crude oil spills	University of Alberta Toogood	1973 1974 1975	$19,000 19,000 22,850	$60,850	Yes
042	A study of epiphytic lichens in the vicinity of a gas processing	University of Calgary Bird - Case	1973	$ 6,050	$ 6,050	Yes
043	Selection and survey of potential ecological reserves	University of Alberta Fuller	1974 1975 1976	$16,000 20,000 22,000	$58,000	Yes
071	Task forces on urban environment	Edmonton Social Planning Council	1973	$16,350	$16,350	Yes
072	Use of field techniques in high school environmental studies	A.R.L. Fenna	1974	$ 2,500	$ 2,500	Yes
085	Reclamation and recycling for solid wastes	University of Alberta Sprague	1973	$ 7,000	$ 7,000	Yes
093	Carcinogenic hydrocarbons as pollutants in the atmosphere of Calgary	The University of Calgary Hodgeson	1974	$28,020	$28,020	Yes
094	Recycling waste lubricating oils	Synergy West Limited Calgary Joint Funded	1974	$21,800	$21,800	Yes

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
095	Clarification of waste water from tar sands	Wilson Mud Service	1974	$18,000	$18,000	Yes
096	Women and the Environment	Abercrombie & Stewart Edmonton	1974	$19,810	$19,810	Yes
100	Andhydrous recovery of bitumen in a fluidized bed reactor	The University of Calgary Bennion	1974 1975 1976	$15,000 12,000 13,000	$40,000	Yes
103	Environment and Society in Alberta	The University of Alberta Stenn	1974	$13,100	$13,100	Yes
112	To investigate sulphur isotope abundances near gas processing plants	The University of Calgary Krouse	1974 1976	$ 5,400 4,000	$ 9,400	Yes
115	Automatic exhaust emission control under low ambient temperature conditions	The University of Calgary Karim	1974 1975	$12,500 7,000	$19,500	Yes
119	Removal of hydrocarbons from aqueous waste water	The University of Calgary Tollefson	1974 1975 1976 1977	$10,000 16,000 12,000 18,000	$56,000	Yes
125	Recycling waste lubricating oils Part II	Synergy West Limited Joint Funded	1975	$26,300	$26,300	Yes
134	A study of bacteria adherent to solid surfaces in fresh water environments	The University of Calgary Costerton	1975 1976 1977	$ 7,800 11,270 14,350	$33,420	Yes
140	Epiphytic lichens as biological indicators of air pollutants	The University of Calgary Calgary Bird - Case	1975 1976	$ 6,720 6,110	$12,830	Yes

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
143	Effects of the Shell Waterton gas plant on Soils, Water and Rainfall	Mckinnon, Allen and Associates	1975	$15,925	$15,925	Yes
145	The urban heat island of Calgary	The University of Calgary Nkemdirim	1975	$23,500	$23,500	Yes
146	Treatment of Tar sands tailings with fly ash	The University of Saskatchewan Bakshi	1975	$ 4,331	$ 4,331	Yes
147	Criteria and Priorities for funding research	Western Ecological Surveys Edmonton	1976	$10,000	$10,000	Yes
150	Carcinogenic hydrocarbons as potential environmental pollutants in Alberta resource development	The University of Calgary Peake	1976 1977 1978	$19,800 23,500 23,500	$66,800	Yes
151	Utilization of solar energy	The University of Alberta Weichman	1976 1977	$6,120 4,400	$10,520	Yes
173	Social implications of multiple family environments	Urban Research	1976	$24,850	$24,850	Yes
181	Wildlife production in Alberta	Synergy West Limited	1976	$25,700	$25,700	Yes
188	Control of Drift from aerial spraying	Lakeland College	1976 1977 1978	$ 5,100 8,200 8,600	$15,000	No
T0218	Heavy Metals and other elements in fly ash and their behaviour and influence in fly ash amended soil material	The University of Alberta Dudas	1977 1978 1979	$17,720 11,608 13,036	$42,364	Yes
T0224	Biodegradation of environmental pollutants	The University of Calgary Kapoor	1977 1978 1979	$15,000 17,000 16,500	$48,500	Yes
T0242	Investigation of sub-atmospheric in-situ leak detection methods for underground hydrocarbon storage tanks	Athabasca Research Corp. Limited Joint Funded	1977 1978 1979	$30,950 20,000 104,761	$155,711	Yes

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
T0244	Influence of parents and media on childrens information values and behaviours toward the environment	The University of Calgary Fouts	1977	$ 9,606	$ 9,606	Yes
T0258	The problems and potential for spray irrigation of sewage in rural Alberta communities	The University of Calgary Tester	1977	$19,291	$19,291	Yes
T0261	Field investigations of the dispersion of pollution within an area of complex terrain	The University of Calgary Rowe Joint Funded	1977 1978	$50,000 35,000	$85,000	Yes
T0269	Development of an environmental research inventory of projects and expertise in Alberta	Schick Information Systems Limited	1977	$78,000	$78,000	Yes
T0290	The persistence in the Alberta Environment of carcinogens derived from used lubrication oils	The University of Calgary Sanderson	1978 1979 1980	$16,000 18,000 19,200	$51,280	No
T0317	Bottom fly ash in place of aggregates in ashvault stabilized soils	Consolidated Concrete Ltd Edmonton Joint Funded	1977	$60,000	$60,000	Yes
T0324	Thermal pollution and variation in species composition in the Sheep River	R.R. Anderson Calgary	1970	$ 1,000	$ 1,000	Yes
T0330	Terrestrial ecology of the Clifford E. Lee sanctuary vegetation and birds	The University of Alberta Hodgetts	1979	$ 8,000	$ 8,000	Yes
T0336	Removal of organic pollutants from aquatic environments by bacterial activity	The University of Calgary Costerton	1978 1979 1980	$ 8,000 8,560 8,300	$24,860	Yes
T0340	Low levels of ethylene as a phytotoicant	The University of Calgary Reid	1979 1980	$14,400 15,900	$30,300	Yes
T0347	Background radiation and activity level in drinking water and their correlation to the incidence of cancer	Tse Edmonton	1979	$19,995	$17,995	No

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
T0270	Characterization of toxic compound in waste drilling mud	Canadian Petroleum Association Joint Funded	1977 1978	$73,152 94,600	$167,752	Yes
T0318	Hydrology and water quality project for the Clifford E. Lee nature sanctuary	The University of Alberta Hodgetts	1978 1979	$ 9,185 2,375	$11,560	Yes
T0319	Salt water spills research in the Swan Hills	Canadian Petroleum Association Joint Funded	1978	$37,600	$37,600	Yes
T0345	Assessment of environmental impact of agriculture operations on rivers and river shore lands	Taylor & Manz Lethbridge	1979	$20,891	$20,891	Yes
T0346	The nature of microbial symbrosis in plant shizosheath association	L.G.L. Limited Edmonton	1979 1980	$17,900 11,000	$28,900	Yes
T0348	Converting fly ash into hydraulic cements	The University of Calgary Joshi	1979 1980	$18,500 19,950	$38,450	Yes
T0349	Ipiatik gas field facilities environmental location and design study	Amoco Canada Petroleum Ltd. Calgary Joint Funded	1979	$31,656	$31,656	Yes
T0357	Identification of thresholds within the relationship of population growth and provision of services	A. Parkinson Calgary	1980	$10,000	$10,000	Yes
T0363	Use of aquatic invertebrates for monitoring environmental quality in the Peace and Athabasca Rivers	The University of Calgary Boerger	1979 1980	$ 7,400 5,000	$12,400	Yes
T0395	Biophysical inventory of the Gregoire Lake area using colored infrared and Hand-Sat imagery	Amoco Canada Petroleum Ltd. Calgary Joint Funded	1979	$22,000	$22,000	Yes

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
T0375	The effects of insecticides on Saskatoon pollen germination	Grande Prairie Regional College Kozar	1980	$ 3,470	$ 3,100	No
T0383	Optimal energy effectiveness study of a means to establish preferred conditions for human work and recreation	The University of Alberta Nelson	1979 1980	$60,000 63,760	$ 95,760	No
T0384	Environmental change in the Canadian high arctic	The University of Alberta England	1980	$ 7,540	$ 6,786	No
T0387	The plant communities of Northern Alberta. A classification	The University of Alberta LaRoi	1980	$ 9,000	$ 8,000	No
T0404	Microbial transformation of Polycyclic Aromatic Hydrocarbons in soil End products of Benso (a) Pyrene	The University of Calgary Kapoor	1981 1982	$18,700 19,000	$33,600	No
T0405	Solar Legislation for the Province of Alberta	The University of Alberta Kruhlak	1981	$ 6,000	$ 6,000	Yes
T0406	Dispersion of stable Atomosphere on the Lee side of a ridge	The University of Calgary Rowe	1981	$10,000	$ 5,000	No
T0408	Assessment of human services in a Community about to be impacted by multiple industrial developments	Snow Hinton	1981	$ 6,500	$ 6,500	Yes
T0411	Intestinal helminths of dogs and cats in Southern Alberta Prevalance and public health significance	The University of Lethbridge Lewis	1981	$ 9,600	$ 8,640	No
T0415	Environmental noise guidelines for Alberta. Background investigations and recommendations	Western Research & Development Balachandran	1981	$ 8,400	$ 8,400	Yes
T0419	Use of natural soil and synthetic liners to control lechate migration	Komex Consultants Ltd. Folkes	1981	$15,000	$15,000	Yes

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
T0421	Control of erosion following a brine spill in Boreal forested areas by recovery of mosses	The University of Alberta Webster Joint Funded	1981	$10,700	$ 9,630	No
T0422	To conduct a study on forest growth and productivity on and adjacent to Seismic lines in West Central Alberta	Canadian Petroleum Association Joint Funded	1981 1982	$30,000 35,000	$61,500	No
T0423	A comparison of barriers and incentives for soft and hard paths in Canada	The University of Calgary Elder	1981	$18,313	$18,313	Yes
T0427	Evaluation of avalanche hazard in Kananaskis Country	The University of Calgary McPherson	1981 1982	$17,050 22,000	$30,050	No
T0429	The water balance of three water basins in Edmonton	The University of Alberta Laycock-MacKenzie	1981 1982	$17,800 24,000	$29,500	No
T0430	Mechanism of information transaction from Pheromone to receptor molecule in the Orafactory organs of insects	The University of Calgary Wieser	1981 1982	$20,000 35,000	$50,500	No
T0433	Development of a computor model simulating the operation of an irrigation district in southern Alberta	The University of Alberta Verschuren	1981	$12,787	$12,787	Yes
T0435	An investigation into the factors affecting the survival of plains Cottonwood cn the Milk River flood plain, Alberta & Montana	The University of Calgary Smith	1981	$ 7,000	$ 6,300	No
T0437	Reclamation of Brine spills in upland Boreal Forest areas	Canadian Petroleum Association Joint Funded	1981	$12,500	$12,500	Yes
T0438	Improvement of models to predict Lake greeness by inclusion of a Grazer Term	The University of Alberta Prepas	1981 1982	$15,200 19,380	$26,500	No

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
T0439	Land reclaimation research project	Smokey River Surface Rights Society Falher, Alberta Duby	1981	$26,956	$26,956	Yes
T0440	Complexity and stability of Boreal Forest ecosystems in the Hondo-Lesser Slave lake area	The University of Alberta LaRoi	1981	$20,000		No
T0441	Research into Land Farming for oily waste disposal	The University of Calgary Peake Joint Funded	1981 1982 1983	$71,900 84,000 75,000	$170,900	No
T0442	Milner fly ash study	Pozzolanic International Ltd Joint Funded	1982	$12,000	$12,000	Yes
T0446	To improve Hardisty Lake water quality	Tensegrity Systems	1982	$ 8,000	$ 7,200	No
T0449	Energetics of Wildlife disturbance	The University of Alberta Hudson	1982	$20,000	$18,000	No
T0450	The effect of pesticides upon fresh water sloughs	The University of Guelph Lungle	1982 1983	$19,500 20,500	$23,600	No
T0457	Modern pollen rain of Boreal communities: production, composition and dispersal	The University of Alberta Schweger	1982	$ 9,350	$ 2,000	No
T0460	Boreal mixedwood vegetation ecology in the Hondo-Lesser Slave Lake area	The University of Alberta Strong	1982	$10,140	$ 3,800	No
T0463	Historical use of sensitive natural environments	The University of Alberta Brulotte	1982	$11,496	$ 4,000	No
T0472	Variation in Nitrogen status of Boreal vegetation and soils	The University of Alberta Fyles	1982 1983	$11,744 13,344	$20,644	No

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
T0475	Simulated acid rain	The University of Calgary Ladd	1982	$18,235	$18,235	Yes
T0476	Population estimates of nesting Ferruginous Hawks in SE Alberta	The Artic Institute of North America Schmutz	1982	$12,670	$12,670	Yes
T0482	Wildlife habitat retention on Private Agricultural land	The University of Calgary McFarlane	1982	$ 8,625	$ 7,725	No
T0491	Investigation of Bituminous and Coal like materials in waste tailings from Oil Sands recovery as Energy Sources	The University of Calgary Tollefson	1982	$35,000	$24,000	No
T0502	Fish Disease interbasin transfer	Techman Engineering Ltd Calgary McAllister & Mindy	1982	$22,850	$22,850	Yes
T0511	Microbiological conversion of Phenolics to Methane	The University of Alberta Fedorak	1982	$32,000	$ 3,300	No
T0518	Management of Environmental Problems	The University of Calgary Thompson & McKay	1982	$ 8,950	$ 8,065	No
T0519	Comparative health hazards — Sludged vs. Farm fields	The University of Calgary Lehmann	1982	$30,485	$27,185	No
T0521	Ski area development, waste management	The University of Calgary Corrigal	1982	$ 8,500	$ 7,650	No
T0524	Dog & Cat Parasites and Giardia in Public water	The University of Lethbridge Lewis	1982	$27,300	$21,000	No
T0526	Burial depth criteria for pipeline river crossings in Alberta	Hydrocon Engineering Ltd Calgary Veldman	1982	$18,975	$15,975	No
T0532	Recovery of rubber processing oils from cured rubber scrap	Turbo Manufacturing Ltd Johnson Joint Funded	1982	$28,100	$19,670	No

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
T0600	Polymer Modified Bitumen Membrane Liners	Ronden & Associates	1983	$20,000		—
T0604	Study of Thresholds in Municiple Servicing with methods of financing and the impact of economic reversals	A. Parkinson	1983	$12,400	$ 2,480	—
T0608	A reference collection of Alberta aquatic insects for use in Environmental studies	The University of Calgary G. Pritchard	1983	$18,800	$ 3,760	—
T0612	A compendium of environmental data on Alberta reservoirs	R.L.& L. Environmental Services	1983	$17,900	$ 7,900	—
T0613	A three dimensional model for contaminent transport in a groundwater	The University of Alberta Schwartz & Collette	1983	$ 7,700		—
T0621	Socio-Economic impacts of the decision to suspend Esso Resources' Cold Lake project	The University of Calgary Dr. Ross & McCracken	1983	$ 8,075	$ 1,615	—
T0625	Documentation of corrosivity of groundwater	The University of Calgary Dr. W.J.D. Shaw	1983	$18,000	$ 3,600	—
T0628	Solid waste containment and disposal practices in the resource processing industry of Alberta	Komex Consultants Ltd B.H. Conlin	1983	$17,400	$ 3,400	—
T0632	Water quality of the Bow River: The chemical mass-balance and depletion factor approach	The University of Calgary Kananaskis Centre S.A. Telang	1983	$25,000	$ 5,000	—
T0634	Host reservoirs of Giadiasis	The University of Calgary Kananaskis Centre Dr. P. Wallis	1983	$33,000	$ 6,600	—

Grant No.	Purpose of Grant	Grantee	Year	Amount of Grant	Grant to Date	Final Report Received
T0654	Analysis and modification of the thermal performance of attached greenhouses for residential space heating in Alberta	The University of Calgary Dept of Geography R.E. Leckie	1983	$ 5,000	$1,000	—
T0661	Analysis and publication of 14 years of raptor banding data: Habitat requirements, reproductive performance and growth rates of nestlings	J.K. Schmutz c/o The Artic Institute of North America	1983	$ 8,430		—
T0666	Evaluation of man made seismicity induced by engineering developments in Alberta	Dr. T. Vladut Calgary	1983	$18,150	$ 3,600	—
T0672	Legal constraints on Alberta Water Management	The University of Calgary Canadian Institute of Resources Law A.R. Lucas	1983	$12,000		—
T0678	Captive population Management of the Endangered Swift Fox (Vulpes Velox)	The University of Calgary Faculty of Environmental Design Herrero & Schroeder	1983	$ 9,083	$ 1,817	—

Statement A

Alberta Environmental Research Trust
Balance Sheet
As At December 31,1982

Assets

	1982	1981
Current:		
Cash	$ —	$ 24
Deposits in trust (Note 2)	389,350	440,356
Travel advance to employee	1,800	1,800
Prepaid insurance	206	112
	$391,356	$442,292

Liabilities

Current:		
Research grants payable	$ 18,426	$ 15,140
Accounts payable	524	610
	18,950	15,750
Unexpended funds, Statement B	372,406	426,542
	$391,356	$442,292

The accompanying notes are part of these financial statements.

Office of the Auditor General

Statement B

Alberta Environmental Research Trust
Statement of Revenue, Expenditure and Unexpended Funds
For the Year Ended December 31, 1982

	1982	1981
Revenue		
Grants from the Province of Alberta: Department of the Environment	$440,000	$440,000
Private donations	74,650	82,600
Interest income	78,446	59,228
	593,096	581,828
Expenditure		
Research grants	561,484	227,003
Salaries and employee benefits	43,998	39,481
Printing and office supplies	26,426	9,200
Travel and entertainment	10,527	10,483
Honoraria	1,783	3,616
Memberships and subscriptions	1,750	—
Legal fees	50	610
Miscellaneous	1,214	809
	647,232	291,202
Excess (deficiency) of revenue over expenditure	(54,136)	290,626
Unexpended funds at beginning of year	426,542	135,916
Unexpended funds at end of year	$372,406	426,542

Office of the Auditor General

Alberta Environmental Research Trust
Notes to the Financial Statements
December 31, 1982

Note 1 Authority

The Alberta Environmental Research Trust operates under the authority of the Alberta Environmental Research Trust Act, Chapter A-20, Statutes of Alberta 1980.

Note 2 Deposits in Trust

Deposits in trust consist of deposits in the Consolidated Cash Investment Trust Fund of the Province of Alberta.

Note 3 Administration costs

Equipment, furniture and certain administrative costs are provided at no charge by the Province of Alberta and, accordingly, are not reflected in these financial statements.

Note 4 Commitments

In addition to the total expenditure shown on Statement B, the Trust had outstanding commitments as at December 31, 1982 totalling $331,640 (1981 $245,787) for approved projects. Further commitments totalling $324,782 were made in January 1983.

Note 5 Statement of Changes in Financial Position

A statement of changes in financial position has not been provided as disclosure in these financial statements is considered to be adequate.

Note 6 Approval of Financial Statements

These financial statements were approved by management on March 2, 1983.

Office of the Auditor General

ALBERTA LEGISLATURE

OFFICE OF THE AUDITOR GENERAL

AUDITOR'S REPORT

To the Board of Trustees of the
Alberta Environmental Research Trust

I have examined the balance sheet of the Alberta Environmental Research Trust as at December 31, 1982 and the statement of revenue, expenditure and unexpended funds for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

Inasmuch as revenue from private donations could not be completely verified by audit procedures, my examination of this revenue was confined to those amounts recorded by the Trust.

In my opinion, except for the effect of any adjustments which might have been required had I been able to verify the completeness of revenue from private donations, these financial statements present fairly the financial position of the Trust as at December 31, 1982 and the results of its operations for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

C.A.
Auditor General

Edmonton, Alberta
March 2, 1983

CONTRIBUTIONS PRIVATE

Amoco Canada Petroleum Company Ltd.
Anderson Exploration Ltd.
B.P. Exploration Canada Limited
Buttes Resources Canada Ltd.
Canadian Petroleum Association
Canadian Reserve Oil and Gas Ltd.
Dome Petroleum Limited
E.E. Ballantyne
Esso Resources Canada Limited
Francana Oil and Gas Ltd.
Great Northern Oil Ltd.
Gulf Canada Resources Inc.
Home Oil Company Ltd.
Hudson's Bay Oil and Gas Co. Ltd.
Lone Rock Energy Ltd.
Mobil — GC Canada Ltd.
Mobil Oil Canada Ltd.
Murphy Oil Company Ltd.
Nalcan Cleaning, Disposal and Storage Ltd.
Norcen Energy Resources Limited
Pembina Oil Separators (1979) Ltd.
Petro-Canada
Saskatchewan Oil and Gas Corporation
Suncor Inc.
Turbo Resources Limited

TOTAL $74,650.00

GOVERNMENT OF THE PROVINCE OF ALBERTA

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT

CHAPTER A-20
REVISED STATUTES OF ALBERTA 1980

Printed by Queen's Printer

11510 Kingsway Ave.
Edmonton, T5G 2Y5
427-4952

J. J. Bowlen Bldg.
620 - 7th Ave. S.W.
Calgary, T2P 0Y8
261-6251

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT

CHAPTER A-20

HER MAJESTY, by and with the advice and consent of the Legislative Assembly of Alberta, enacts as follows:

Definitions

1 In this Act,

(a) "property" means real and personal property, including contractual benefits, patent rights, money, rights in futuro and choses in action generally;

(b) "Trust" means the Alberta Environmental Research Trust incorporated by this Act.

1971 c31 s1

Incorporation

2 There is hereby established a corporation with the name "Alberta Environmental Research Trust" consisting of the trustees appointed by or pursuant to section 5.

1971 c31 s2;1975(2) c53 s2

Objects

3 The objects of the Trust are

(a) to seek and receive property by gift, bequest, devise, transfer or otherwise, and

(b) subject to any prior trust conditions imposed on the use of the property, or the income from it, or from any of it, to hold, use and administer it for the purpose of provincial expansion of applied and fundamental research relative to environmental improvement.

1971 c31 s3

Duties and powers

4 The Trust

(a) shall apply its property or expend the income therefrom for particular purposes, including trust conditions imposed, that might not otherwise be readily met out of public funds;

(b) shall invest its funds in securities authorized by law for investment of trust funds or as may be directed by the donor;

(c) may enter into contracts and do all other things necessary, desirable or expedient to effect its objects;

(d) shall endeavour, to the extent that it considers it reasonably feasible to do so, to apportion grants of its funds for research in each year equally between persons or bodies that are supported entirely or mainly by public money and those that are not.

1971 c31 s4;1972 c7 s2

Board of trustees

5(1) There shall be a board of trustees for the Trust consisting of the Deputy Minister of the Environment and 7 other persons appointed by the Lieutenant Governor in Council.

(2) The term of office of a trustee appointed by the Lieutenant Governor in Council shall be 3 years from the date of his appointment unless otherwise specified by the order making the appointment.

(3) The board of trustees shall elect a chairman from among its members by the affirmative note of a majority of the trustees then holding office.

(4) The board may appoint any advisors it considers necessary.

(5) The Minister of the Environment may provide any employees necessary to carry out secretarial, clerical and accounting duties and other work required by the board.

(6) A majority of the trustees holding office constitutes a quorum.

(7) The trustees shall meet at least once a year on a date to be fixed by the chairman.

(8) The Minister of the Environment may authorize, fix and provide for the payment of remuneration and expenses to the trustees.

1971 c31 s5;1972 c7 s3;1975(2) c58 s3

By-laws

6(1) The trustees may make by-laws respecting

(a) the appointment, functions, duties and removal of all agents, officers and employees of the Trust and their remuneration;

(b) the time and place for the meetings of the trustees and the procedure to be followed at the meetings;

(c) the general conduct of the business and affairs of the Trust.

(2) A by-law does not become effective

(a) unless it is passed by a majority of the trustees holding office, and

(b) until it is approved by the Minister of the Environment.

(3) A by-law signed by a majority of the trustees holding office is as valid and effective as if passed at a meeting of the trustees.

1971 c31 s6;1972 c7 s4

Committees

7(1) The trustees may at any time delegate any of their powers to committees consisting of such of the trustees and of such other persons as the trustees consider advisable.

(2) A committee so formed shall, in the exercise of the powers so delegated, conform and be subject to the directions, restrictions and by-laws, if any, that are imposed on it by the trustees.

1971 c31 s7

Bill 64
Mr. D. Anderson

ENVIRONMENT STATUTES AMENDMENT ACT, 1981

As revised pursuant to section 6 of
The Revised Statutes 1980 Act

CHAPTER 67

(Assented to December 2, 1981)

HER MAJESTY, by and with the advice and consent of the Legislative Assembly of Alberta, enacts as follows:

Alberta Environmental Research Trust Act

RSA 1980 cA-20

1(1) The Alberta Environmental Research Trust Act is amended by this section.

(2) Section 3(b) is amended by adding "and development" *after* "research".

(3) Section 4(d) is amended by adding "and development" *after* "research".

INDEX

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT 1971 CHAPTER 31 Sec.

Act
coming into force of 8
Alberta Environmental Research Trust see **Trust**
Annual Meeting
board of trustees ..... 5(4)
Board of trustees
delegation of powers by 7
Trust, for 5
By-laws
power to make 6
Committees
delegation of trustee's power to 7
Definitions 1
Deputy Minister
defined ..... 1(a)
Grants
research, for ..... 4(d)
Income
property, from, expanding of ..... 4(a)

ALBERTA ENVIRONMENTAL RESEARCH TRUST ACT — Con.

Incorporation
Trust, of 2
Meeting
trustees, of ..... 5(4),6(1)(b)
Membership
board of trustees ..... 5(1)
Minister see **Deputy Minister**
Minister of the Environment
approval of by-law ..... 6(2)(b)
powers of ..... 5(2.2,5)
Objects
Trust, of 3
Property
application of ..... 4(a)
defined ..... 1(b)
Research
environmental improvement, re ..... 3(b)
Securities
investment in ..... 4(b)
Trust
defined ..... 1(c)
duties and powers of 4

PREVIOUS MEMBERS

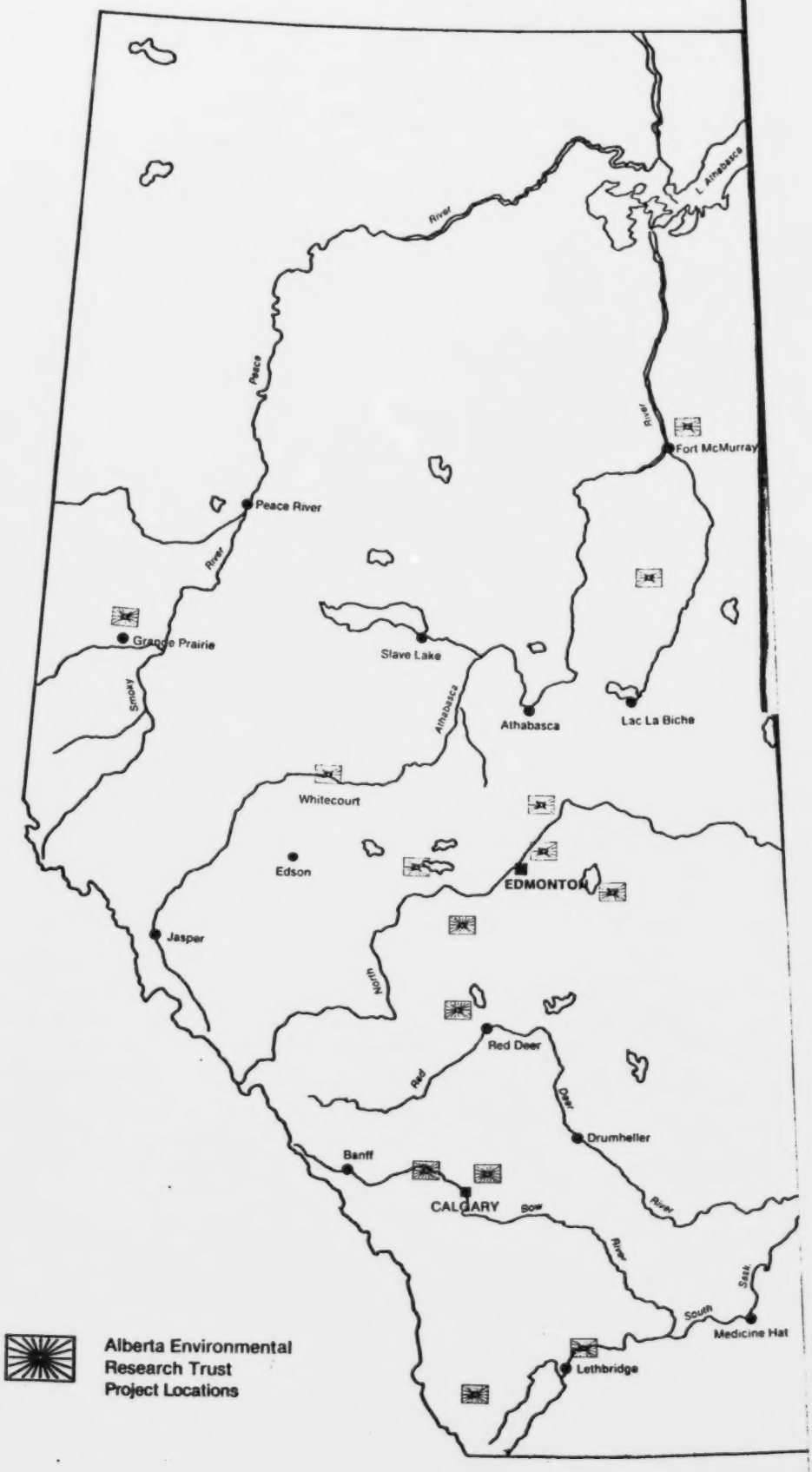
BOARD OF TRUSTEES

• E.E. Ballantyne	Edmonton
F.D. Bradley	Blairmore
R.L. Colborne	Wetaskiwin
• G. Conway	Edmonton
• E.E. Daniel	Edmonton
• Mrs. Elly De Jongh	Edmonton
H. Lembiez	Red Deer
G.J. Mair	Calgary
• Mrs. B. Mitchell	Edmonton
W.J. Mooney	Calgary
• W.R. Neufeld	Grande Prairie
C. Lynn Phillips	Lac La Biche
• R.A. Ritter	Calgary
• R. Scammel	Red Deer
A.R. Smith	Calgary

GRANTS ADVISORY COMMITTEE

D.A. Boag	Edmonton
D.A. Birdsall	Edmonton
P. Boothroyd	Edmonton
D.V. Currie	Edmonton
S. Herrero	Calgary
R.A. Hursey	Edmonton
Dr. A. B. Jones	Edmonton
R. Leech	Edmonton
N.M. Krawetz	Edmonton
T.W. Manning	Edmonton
W.R. MacDonald	Edmonton
R.D. Rowe	Calgary
H.S. Sandhu	Edmonton
H.P. Sims	Edmonton
D.J. Smith	Edmonton
S.B. Smith	Edmonton

• DENOTES ORIGINAL BOARD MEMBER


River
L. Athabasca
Peace
River
Fort McMurray
Peace River
River
Grande Prairie
Slave Lake
Smoky
Athabasca
Athabasca
Lac La Biche
Whitecourt
Edson
EDMONTON
Jasper
North
Red Deer
Red
Deer
Drumheller
Banff
CALGARY
Bow
River
River
Sask.
South
Medicine Hat
Lethbridge
Alberta Environmental
Research Trust
Project Locations

POOR

QUALITY

ORIGINAL